The Builder.

VOL. XVI.—No. 823.

Works in Paris.—A Country House.—The Channel Telegraph.

PARIS, as regard the improvements and works going on there at this time, certainly offers many subjects for inquiry and speculation, and we look forward to the promised discussion at the Institute of Architects as likely to be instructive. An enormous amount of work has been done, immense sums of money have been spent, and great improvements effected. But there are two sides to the picture, both in point of financial return and of artistic effect; and it is desirable that both should be looked at. We are not about to forestall the discussion, but to jot down for the information of our readers some notes of what is doing there. The demolition of the "Pont au Change," noticed by us some time since,* proceeds with a rapidity which astonishes even the Parisians who witnessed the rapid execution of the "Pont St. Michel." All the arches have been cleared away and the materials removed: the piers are taken down to about a half their height. The advancement of these works is due to the means employed for simplifying the ordinary work. Two tramways are erected on light framework, over the spaces formerly occupied by the footpaths of the bridge, and on these travelling-crabs work backwards and forwards, lifting the heaviest blocks, and transferring them to carts for removal. It is expected that the new bridge, which is to be in the axis of the Chamber of Notaries and the new Boulevart, opened before the Palais de Justice, will be complete for circulation on the 15th of August next, the Emperor's *fête*, at the same time as that portion of the Boulevart which unites the two new bridges, and which enforces the demolition of the houses in the Rue de la Barillerie. The first portion of this street, close to the Marché des Fleurs, was anciently denominated La Rue de Saint Barthélemy, on account of the parochial and royal church there situated. The second portion, near the Pont St. Michel, was called, after the year 1280, Barilleria. The poet Guillot at that period called it La grand' Bariszeria. In 1398 it was termed Rue du Pont St. Michel; and about thirty years ago there still existed at the houses Nos. 22 and 24 a cornice and a very high wall, which formed the boundary-wall of the palace. At the corner formed by this street and the Rue de la Vieille Draperie, stood the house of Jean Chatel. After the assassination of Henry IV. this house was razed to the ground, by order of the Parliament of Paris, and on its site a pyramid was raised, which existed till 1655, when it gave place to a fountain, since suppressed. Criminals were exposed to public gaze and punishment on the *place* opposite the Palais de Justice. The new Boulevart, absorbing the Rue de la Barillerie, will annihilate a portion of the Passage de Flore, which has four streets leading into it, and will cause the demolition of the Salle de Bal de Prado, which celebrated hall has been successively a chapel, a chapel of St. Barthélemy, a theatre, the theatre of the *cité*, and a grand lodge of Freemasons.

The works of decoration of the Fontaine de la Place du Chatelet are drawing fast to a close. At present they are giving the last touch to the four sphinxes surmounting the basin which surrounds the monument, and all the space formerly occupied by the chestnut plantations has been laid down in granite pavement. Opposite the Pont au Change a space has been left vacant. This spot is not to be planted, for an obvious reason. Once the enlargement of the Rue de la Barillerie accomplished, the spectator, placed on any point of the roadway which unites the two sections of the Boulevart Sebastopol across the Seine and the *cité*, can embrace at one view the fountain of the Chatelet and that which is destined to serve as a *pendant*, and is already commenced on the left bank, close to the Pont St. Michel.

The barracks erected at the angle of the Rue du Faubourg du Temple and the Boulevart Saint-Martin are completely finished, the last scaffolding being about to disappear. This vast edifice, calculated to accommodate 3,500 troops, covers, altogether, 9,630 square mètres, 5,500 of which are built upon. The frontage on the Boulevart side is 114 mètres, and consists of a half-underground story, an *entresol*, and two stories, the upper of which is crowned with a roof 4 mètres high. Four pavilions, ornamented with pilasters, occupy the corners. A pediment adorned with appropriate sculptures marks the principal façade, in front of which it is proposed to establish handsome plantations, into which full-grown trees will be transplanted.

Fire lends its aid to clear away. On the 2nd inst. a conflagration occurred at the Paris terminus of the Lyons railway, in a range of offices standing in the No. 2 court, at the left wing of the building. Prompt assistance was obtained, and the police were, after much exertion, enabled to confine the ravages of the fire to the offices wherein it had originated. These were utterly destroyed, as also the cash-boxes and safes of the *chefs de bureau*. Some gold and silver were dug out of the ruins; but the details of loss have not been stated. An over-heated flue of one of the stoves is asserted to be the cause.

On the day before this occurrence, All Saints', Paris, was more than ordinarily alive, and the sight to a stranger was an interesting one. As is the custom on All Saints' Day, an immense crowd of persons of all grades and denominations, the youngest children and the oldest men, visited the different cemeteries in Paris where their relatives were interred. On the eve of that day the visitors were numerous, many remaining all night, watching and praying over the remains of their friends. At the Eastern Cemetery, that of "Père la Chaise," much attention was directed to the last resting-places of Mademoiselle Rachel and of the poet Alfred de Musset. The tomb of the *tragédienne* is on the right-hand side at the entrance of the Jewish Cemetery. A small chapel in the Grecian style has been erected on the spot, and over the doorway the name of Rachel is delicately carved, with two wreaths and a diadem interlaced.

Alfred de Musset's tomb is in the middle of the grounds to the left of the large avenue which leads to the chapel. On an antique plinth is placed a marble bust of that favourite author and poet. The following lines from one of his works have been engraven on the eastern side of the monument:—

> "Mes chers amis, quand je mourrai,
> Plantez un saule au cimetière,
> J'aime son feuillage eploré
> La paleur m'en est douce et chère
> Et son ombre sera légère
> A la terre où je dormirai."

His wish has been complied with; a willow overhangs the grave.

Public works, it seems, are not to flag during the winter, for the Prefect of the Seine is making extensive preparations for giving a lively impulse to them. An English company, it is said, has presented itself for the immediate execution of the Prince-Eugène Boulevart, which is proposed to start from the Chaussée d'Antin to the Saint Germain railway station. Continental papers assert that this company is backed by the firm of Devaux, of London. Another company proposes to execute, on certain conditions which will perhaps require the co-operation of the town authorities, the continuation of the Rue Lafayette as far as the Rue Cadet: and certainly the frequent accidents happening at the summit of the Faubourg Poissonnière render the execution of the project one of extreme urgency.

The works for the completion of the terminus of the "Chemin de Fer du Nord" will shortly commence too. Mr. Rothschild has made considerable purchases of land in that neighbourhood. The project of advancing this station to the Bazar of Bonne-Nouvelle, on the boulevart which bears that name, though described as most ingenious, has been abandoned on account of the expenses being of a magnitude sufficient to deter the company from putting the idea into execution at present.

Two new barracks are to be erected; one on the site of the old houses attached to the Luxembourg garden, marking the view, and stretching along the Rue d'Enfer; the other in the Rochechouart quarter, on the spot occupied by the abattoirs. Splendid cavalry accommodation is to be afforded in both places.

If the "*octroi*" walls of Paris are removed to the fortification lines, as purposed to be done, the labourers and artisans who have been driven outside the *mur d'enceinte* by the demolition of houses, and who fare economically outside the barriers, will find their daily consummation of necessary food augmented, not in quantity, but in *price*. The step, therefore, certainly requires much deliberation.

Since the execution of the great works in the Champs Elysées, and in all the part west of Paris, the population has extended itself there, and the embellishments of the Bois de Boulogne have spread nearly to St. Cloud, the favourite residence of the Emperor. All the roads have been lined, with Aladdin-like rapidity, with little rural retreats,—nests, as it were, sheltered under the leafage of the wood. Sophisticated enough these are for the most part, but must be regarded as a step towards the English system of separate dwellings as opposed to the "flat" system. Our sketch represents one of these "boxes" situated at Auteuil, at the entrance of the Bois de Boulogne.* The little turret, which is the staircase, terminates in a sort of observatory, whence are seen Paris and the windings of the Seine. Our own windings, however, must be here brought to an end; and we cannot put a better tag to the yarn than an intimation that the telegraphic cable between Dover and Calais, which it was feared would never be in working order again, is in a fair way of recovery. It is well known that the injury proceeded from a ship's anchor, which broke the line. The company sent a tug-boat, the *Douro*, Captain Monsor, with twenty-one workmen, to commence at Dover, and underrun the cable. After an inspection, interrupted frequently by rough weather, one end was found after running up thirteen miles, and a buoy was attached to it. The same operation was repeated at Calais, where the *Douro* stopped twenty-four hours. On Wednesday in last week the inspection commenced, and at 2½ miles from Sangatte the other end was found literally sawn across, unravelled, and scarcely to be recognised. The communication between the *Douro* and Calais was perfect, so that there was no other fracture, and the junction, which was speedily effected, has placed the line in effective working order. Let us hope that the fault in the Atlantic cable will be as easily discovered and remedied.

* Page 666, *ante*.

THE CHRYSANTHEMUM.

THE importance of uncovered ground in London; the necessity for extending rather than diminishing space devoted to parks and squares; the value of trees and flowers to bodily health, derived even through the sight; are points which we have often brought before the notice of our readers, as connected, not merely with the sanitary welfare, but thencefrom with the morals of the people. Also we have argued that arborescent and floral objects, and the other elements forming the beauty of nature, having value in enhancing the beauty of art, had their own expression, if possible, heightened by contrast with works of sculpture and architecture,—or rather, perhaps, with these gave birth to a new combination. We have doubted, indeed, whether architectural beauty, as influence on the perceptions, could be said to exist—unless by contrast, actual, or at

* See page 739.

least referable to the natural objects. Every effort, therefore, however slight, to improve the foliage or the flowers in London squares and gardens, merits notice, and specially so in this sunless month, when architecture is deprived of the results of clear air and brilliant light.

The success that has attended the cultivation of the *chrysanthemum* in the gardens of the Inner and the Middle Temple, and at Lincoln's-inn-fields, and as shown by the exhibition at the Crystal Palace on Saturday and Monday last, points towards more that might be done in a similar manner to improve the aspect of London in this cheerless period. As the smoke-nuisance is diminished, both the air and the soil will be favourable to the growth of a considerable number of trees, shrubs, and flowers; but, even at present, vegetation thrives in a manner unknown in the manufacturing towns of Lancashire. There are fine trees in the squares, as Mecklenburg-square and Lincoln's-inn-fields; in the gardens of Gray's-inn and in the grave-yards of the City: the number and the kinds of trees might be greatly increased; and there are many flowers besides the *chrysanthemum* which could be grown by attention to the renewal of the soil, and by compensating the want of those dews, which are not experienced in towns as in the country. Watering may be effected in towns more easily than in the country; all that is necessary being to lay pipes to plugs in the garden, to which hose could be attached. Town-gardens, however, form a particular branch of the horticultural art.

The *chrysanthemum* happens to be peculiarly well adapted for growth in towns; and when all other flowers, the leaves of the trees, and the summer verdure of the grass, have passed away, this flower is in its full beauty. There are some thousands of varieties, differing from one another in size and form of the flowers, and height of the plant, and by the colours, which include crimson, golden yellow, white, violet, and others in every sort of hue and variegation. In five-and-twenty years the flower has assumed a character differing from its former appearance as much as the dahlia differs from the dandelion. The varieties of form are at present classed, according to Mr. Broome, of the Inner Temple-gardens, as the "'incurved,' or having the petals turned inward; 'reflexed,' with the petals curved in the opposite direction; and 'anemone-flowered,' with a guard or fringe of reflexed or quilled petals, and a centre like a German aster."* The "anemone-flowered" appear to be less common than the other varieties; but there were some beautiful specimens at the Crystal Palace. Besides the *chrysanthemums* with the ordinary-size flowers, there is the variety to which perhaps most attention has been given lately, that is to say, the *pompone*, a small tufted button-like flower, as the name, from the French, implies.

In the training and grouping of these numerous varieties great scope is afforded for effect. The species grow to different heights, up to six or seven feet; so that the plants can be arranged as a bank of flowers; or, as in the Middle Temple garden, in circular beds, the colours can be massed together in divisions. Generally speaking, in beds, the effect is somewhat too party-coloured. The plants are also grown in pots. Sometimes they are trained in a manner to resemble the appearance of the standard rose, and often the head has a large circumference profusely covered with flowers. Mr. Morgan, of Lincoln's-inn-fields; Mr. Dale, of the Middle Temple; and the gardener of the Inner Temple, deserve the thanks of Londoners. One or more of them claim to have aided in social improvement by the development of a new taste amongst the working classes; and were we to judge from the crowds who have visited the Temple gardens, we should admit that the view of this tendency of floriculture may be not unreasonable, even with town gardens as at present they can be made. Much more, even in the space of a balcony, however, might be done than is generally attempted or understood, and the effect *architecturally* of houses, could be improved by such means. The "anemone-flowered" variety of *chrysanthemum*, modified or conventionalized, could be well adapted in ornament.

* "Culture of the Chrysanthemum as practised in the Temple Gardens; to which is added a List of Plants suited to the Atmosphere of London and other large Towns, with Hints for their Management." By Samuel Broome, F.H.S. Gardener to the Hon. Society of the Inner Temple. Second edition. 1858.

"On the Chrysanthemum, with particular Reference to its Cultivation in or near large Towns; to which is added, a suitable Selection of large and Pompone Varieties." By J. Dale, Gardener to the Hon. Society of the Middle Temple. Second edition.

See also on the general subject we have entered upon, "The City Garden and its Management," &c. by the last-named author.

AN ARCHITECT'S SKETCH-BOOK OF THE THIRTEENTH CENTURY.

Once upon a time (1230-1260?) there lived an architect named Villars d'Honnecourt, probably so called from the village of that name situated near Cambray. Concerning this architect but three facts are known with any certainty: firstly, that he lived somewhere in the first half of the thirteenth century; secondly, that he made a long stay in Hungary; and thirdly, that he is the author of a sketch-book at present preserved in the Bibliothèque Impériale at Paris. This sketch-book has just been published in *fac simile*, at the public expense, under the able direction of the late M. Lassus, and enriched, after his decease, with additional notes, by M. Darcel.

Now both the book and the execution of the old architect's sketch-book are very different from those splendidly-bound volumes, with gilded backs and tinted paper, in which we more luxurious moderns are accustomed to deposit our memoranda of old buildings, often made at the rate of one is afraid to say how many per day.

Villars d'Honnecourt had probably but this one book, which, from internal evidence, must have lasted him for a very considerable time. In shape it resembles a large pocket-book, bound in pig's-skin, now become about the same colour as a very-much used saddle. The inside contains thirty-three leaves of by no means first-rate vellum, which are fixed to the cover by threads going right through the back, and encircling very stout bands of leather on the outside: these bands are thus real and constructive, and not shams and delusions, as in our modern bindings, where we attach a heavy book to a heavy binding by three or four thin threads, which the first fall causes to break, and thereby affords fresh work for the bookbinder.

From the researches of M. Lassus, aided by the two paginations of the thirteenth and fifteenth centuries respectively, it would appear that we only possess thirty-three leaves out of fifty-two, or only about three-fifths of the original work. Upon these leaves of vellum Villars d'Honnecourt first of all drew the object he wished to represent with some substance resembling the black-lead of the present day; in all probability it was a lead or silver point, or even the common black stone used by the masons. The most obvious instance of the employment of this substance occurs in the back of the bear, plate vi.; which marks, however, we know not why, are omitted in the *fac simile*.

Villars d'Honnecourt was the possessor of a bow pencil, but not of a bow pen, for all these circles, as well as all the straight lines (with very few exceptions) were inked in by hand; at least, they appear to have been so, as far as I myself could ascertain from a very careful examination of the original. The general form being thus indicated, our architect went over all the lines with a pen and ink. The ink, by the strangest coincidence, exactly resembles the indelible brown of the present day, and like it, where it has been used thickly, becomes a very dark rich brown; where, on the contrary, employed more sparingly, it presents a light yellowish brown.

Some of the inscriptions, however, have been added in a very much darker ink, nearly, but not quite black. The manipulation of the ink lines is curiously in unison with the stern, severe local character of the thirteenth-century architecture of Flanders and Picardy. Villars evidently made up his mind exactly as to where the lines were to be drawn, and drew them in a firm decided manner, generally at once, but occasionally going over a line to give it greater uniformity. With a crow-quill and indelible brown a better imitation of this style of drawing can be obtained than with a goose-quill; for the crow-quill being of less strength than the goose-quill, soon gets its point worn away and softened, and thus makes an uniformly thick line, whereas the goose-quill takes a longer time to arrive at the same stage, and is more liable to make blots.

The great feature in all the drawings under consideration is their precision; every line was considered before it was drawn, and then drawn energetically. It is to be regretted that the *facsimiles* are very deficient in this particular, more especially the earlier ones, *e. g.* the second plate, containing the figures of the Twelve Apostles, its ragged and painted lines giving but little idea of the original.

It is very evident that the present binding must have been the second, for, in two instances, parts of the drawings of one page appear on another. We are, therefore, induced to believe, either that the drawings were made at different times in a bound book, and that the book having got loose from frequent use, and requiring re-binding, these two sheets, which were originally the inmost ones of the quires, got transposed, and placed between others; or, secondly, that all these drawings were drawn at one period from other sketches, and the artist having the one sheet of vellum flat before him, forgot the limits of the page, and produced his lines. At the present day it is almost impossible to say which was really the case, for in the state we have them, the pages representing figures and architecture are quite mixed up; and those showing the chapels at Rheims, which M. Lassus thinks were the first executed, are among the very last in the volume.

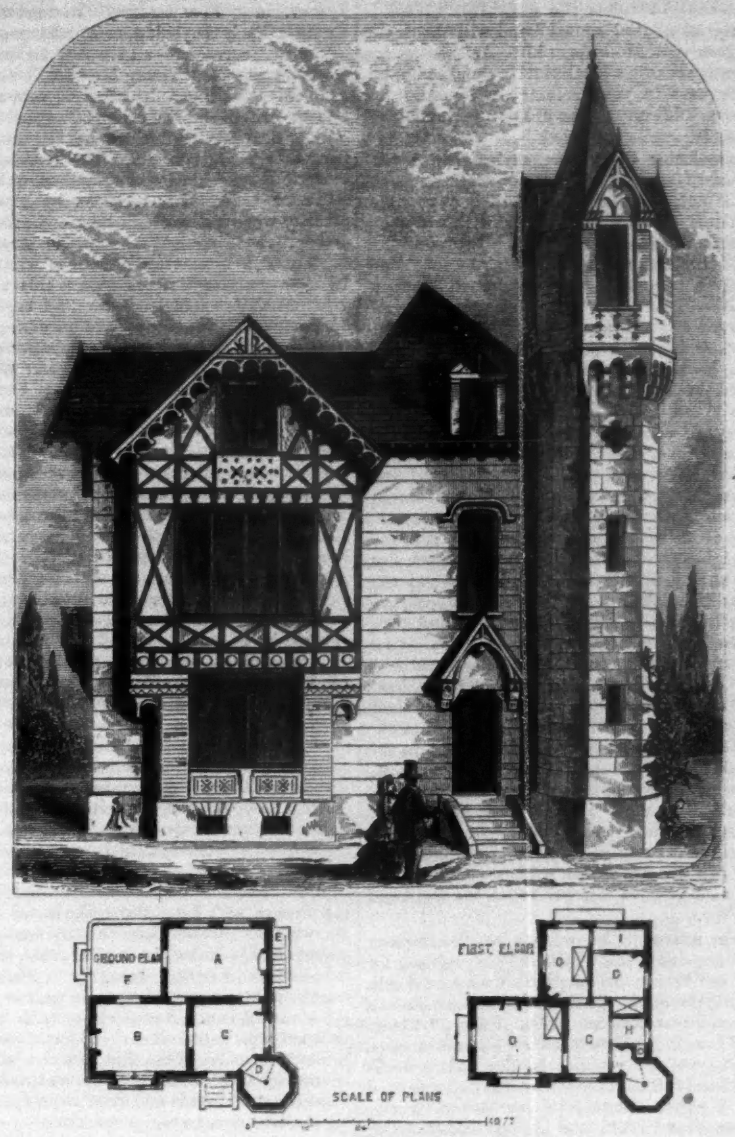
And now having seen how Villars drew, let us see on what subjects his industry was expended, and what deductions respecting his history M. Lassus has derived from them. These subjects may be divided into three great divisions, viz. architecture, figures, and mechanics. And to begin with architecture as the more important: here we find drawings of existing buildings, designs for roofs, designs for stall-work and furniture, designs for ornament; and, lastly, solutions of some of the more difficult problems in stone cutting. The copies of existing buildings are exceedingly curious, more especially if we compare them with the originals, as M. Lassus has enabled us to do, by means of additional plates; and the first thing which strikes us is their extreme inaccuracy and contempt of detail; but this becomes less surprising when we consider why he sketched them. It was not to make a collection of sketches with an eye to publication, but because there was something in the general arrangement which, with alterations, might come in useful for the work he might have in hand at the time: he therefore drew it, with the addition of his own improvements. Thus he thought the windows at Chartres presented too much solid surface, so he gives a turn to the inner wheel of the window, and pierces quatrefoils in the extra spandril space thus obtained.

In the outer ring of all he changes the small quatrefoils into trefoils, the latter working into the spandril better. As to the detail he did not want that, for he was perfectly convinced that the detail of his own time was better than anything before it; and as he had it at his fingers' ends, he could supply it without any reference. It is a singular thing, that whenever Mediæval architects had to copy earlier work, although they might imitate the general shapes, yet they almost invariably used their own detail, as in the instance of the nave of Westminster. Villars also gives us his idea of the rose window at Lucerne, which, by the way, is very much altered, and by no means an improvement upon the original; also the tower of Laon Cathedral, which he says is the most beautiful he has ever seen,—"En aucun liu orques tel tor ne vi com est cele de Laon;" also, a very full and complete study of one of the apsidal chapels of Rheims Cathedral,—this time with sections of the pillars, mullions, &c. In another part of the book, we find one of the nave windows of the same church: this, he tells, he drew because he liked it. Among the plans we find the choir of the church at Vaucelles, of St. Etienne de Meaux, and of Notre Dame de Cambray. From the similitude of this latter with the plans of the Rheims chapels, as well as from the notification, that if the chapels are ever finished, they will be like those of Rheims, M. Lassus concludes, that Villars was probably the architect employed at Cambray; that he was employed there from the beginning of the works in 1230 (previous to which he made the studies of Rheims), until its completion in 1250; when, as he tells us, he drew the nave window of Rheims before going to Hungary. In that country his annotator is inclined to give him the credit of the church of St. Elizabeth, at Cassovia, on account of the resemblance of its plan with that of the church of St. Yved de Braine, of which also he conjectures he was the architect. Another reason brought forward, is the veneration of St. Elizabeth for Notre Dame de Cambray. Finally, we know that he returned home, for he draws some pavements which he saw in Hungary, in which country he tells us he remained many days. Of course, a great deal of this is pure conjecture; but, at least, it has the merit of probability, and until we have something better to substitute, it will do as well as anything else.*

W. Burges.

Bristol.—The office of surveyor for one of the districts in this city has become vacant, by the death of Mr. Wm. Armstrong, who had held the office for thirty-four years.

* In an ensuing number we shall give examples of the sketches, and a continuation of these observations.



COUNTRY HOUSE AT AUTEUIL, NEAR PARIS.——*M. Danjoy, Architect.*

A. Dining-room.
B. Saloon.
C. Vestibule.
D. Staircase.
E. Staircase for kitchen.
F. Terrace.
G. Bed-rooms.
H. Water-closet.
I. Dressing-room.

ADULT EDUCATION.

In watching carefully the growth of institutions which have for their object the advancement of the great masses of the community, there are few evidences of decided progress which afford us more pleasure and seem more pregnant with important results than those educational establishments for youth and adults which are rising up in all the districts of the metropolis. In these places, many of them humble enough, lectures are delivered on popular and instructive subjects by men of ability and respectable position. Classes of the most rudimentary and more advanced description are formed, where those who have been unfortunately neglected in younger years may, with pleasure to themselves, and without loss of self-esteem, acquire the mechanical means of education.

When we consider that, although a great amount of good results from the working of the national schools, it is not one scholar in ten who obtains what may be called a sufficient, plain education;—that is to say, good skill in English reading, a thorough knowledge of the first leading rules of arithmetic, the principles of grammar, and the faculty of writing a fair and legible hand,—the necessity for such schools as these is evident.

The failure in the useful education of the thousands of the children of the industrious and poorer classes, who depend on what is called the national system, is not to be so much attributed to imperfections in the system itself as to the want of regular attendance of both boys and girls; and yet, after very careful observation, we are forced to say, that although those who have been regularly at school, say from seven to thirteen years of age, have acquired a large amount of general knowledge, such as the principles of astronomy, natural history, geography, &c.; yet a far too large proportion are deficient in those simple acquirements to which we have alluded, which should be made the basis of all education; for if either a boy or a girl be able to read well, to write well, and with correct expression, and be master of the first five rules of arithmetic, that scholar has, at his first start in the world, the key to a vast amount of knowledge, which, if he or she have ability, only requires to be properly used to ensure both profit and satisfaction. Allowing the acquirement of this condition to be the chief object which should be sought by the schoolmaster, we do not underrate the value of that information on common things which opens out such a wide field of pleasure to the mind, and is useful both for the purposes of health and social comfort. A writer in an influential journal lately remarked, in connection with one of these schools, which was attended by the children of the very poor, that it was ridiculous for the teacher to exhibit and explain the functions of the human stomach to those who were needing and anxious for food. We do not agree with this; for, independent of other considerations, it is a matter of life and death that those having families, and in poor circumstances, should have a knowledge of the principles of health. This knowledge is a species of education of the greatest value.

A few years ago, when the submarine electric telegraph had been laid from Orfordness to the Hague, bands of workmen were engaged in long lines passing the magical wires over the wilds of Suffolk. The country people assembled in knots, and gazed with wonder and some fear, and eagerly asked questions of strangers as to the object of such a work. It was in vain, however, to attempt explanation: they were totally ignorant of the simplest kind of knowledge, and it would have been perhaps more difficult to make them understand than if they had been so many American Indians. There is something terrible in this extent of ignorance in a civilized country, and which is unfortunately to be met with in other English districts besides Suffolk, and is a disgrace which cannot be too soon removed. The clergy of the last generation have something to answer for in this respect.

The large number of those imperfectly educated who crowd to these adult schools which have so suddenly sprung up, shows that a good spirit exists amongst the youth of our large towns, and it will be promoted and increased by example; and we strongly urge those who have been the most neglected, in many instances by no fault of their own, to seek out these working men's educational institutions, and not to be ashamed to begin in the most simple way, and patiently acquire the power of reading and writing, and at the same time get general knowledge by the means of lectures and in other ways. Let these remember with encouragement that George Stephenson could not read a letter in a book until he was eighteen or nineteen years of age and grown to the stature of a man. Many other instances might be given: we must, however, be content at present with mentioning the case of a man in a northern provincial town, who from the most humble condition raised himself to become the proprietor of extensive glassworks, where numerous clerks and workmen were for years actively and usefully employed. We well remember the gentlemanly bearing and excellent management of great concerns by this man, and yet he was barely able to write his own name, and could not read a letter. So greatly did this manufacturer regret this imperfection, particularly when children began to spring up around him, that almost at middle age he commenced his own education.

We would urge upon the young men who are in attendance at the adult schools, to bend the strength of their minds to the means of obtaining the information and tasteful skill and knowledge required in their own business; remembering that the concentration of mind on a particular subject is a main secret of success. Sir Isaac Newton, on being asked how he accounted for the acquirement of his knowledge, said, that when he determined on a subject it at first seemed dim and dark, but that by constantly keeping it in his mind, he gradually saw light. In architecture, engineering, painting, and other arts and sciences, that concentration of attention, and distinctness of purpose, may be pointed to in hundreds of eminent instances as the cause of success.

CHELSEA OLD CHURCH.

Within the last twelve months this very interesting and ill-used old structure has undergone much internal alteration. In the autumn of last year it was found necessary to reconstruct the gallery. This gave a great increase of light and ventilation, and rendered much lost space available. During the last two months the body of the church has been entirely repewed, the pulpit and reading-desk placed on the south side, and a new altar-piece provided. New stoves have been fixed in niches in the north and south walls, with an appliance for supplying fresh air, warmed by being made to pass between the inner and outer cylinders of the stoves, and thus obviating excessive local heat.

The old Bible and Prayerbook, fastened with chains to prevent removal, have been restored and placed with the chains and old clasps in a new case, with lectern designed for their reception.

During the progress of the works several interesting relics of the past were discovered. Upon removing the decayed panelling which served as altar-piece, the words "Jesus Christe the same to daye et yesterdaye et for ever," were discovered, written with black distemper colour, and in old church text. This inscription is supposed to date shortly after the Reformation.

In the south wall of the chancel was found the remaining half of the piscina, and on the north side of the altar a small closet (*armarium* or ambry), that probably received the vessels used in the services.

It may be remembered that this church has two chapels—one on either side the altar, both of which are private property: that on the north side, called the Laurence Chapel,* has been slightly repaired,

* Some fragments of stained glass of the sixteenth century were found in this chapel.

whilst that built by Sir Thomas More on the south side has been repewed by its owner. The painting of the plaster in imitation of marble is to be regretted. Though ugly and grotesque of form, this quaint old church contains many interesting monuments of the sixteenth and seventeenth centuries, including one to a member of the Stanley family, recently restored at a considerable expense; and one to Jane Dudley, Duchess of Northumberland, and mother of Queen Elizabeth's Dudley. The above works were carried out under the direction of Mr. H. H. Burnell, architect to the trustees. Messrs. Todd, of Chelsea, were the contractors. Some praise is also due to Mr. Dover, clerk of the works, for his care of the monuments and other objects of interest.

WHAT IS A VENTILATED ROOM?

Truly "A Young Member" (he does not tell us of what, but I conclude, from certain marks, one of the honourable profession paid for their services by a per-centage "on the outlay" of other people's) has enlightened your readers on somewhat more than he tells us the quotation from the *Leamington Advertiser* did. I suppose you have plenty of letters by this time from the said honourable profession to deny it is quite such a quackery as their indiscreet "Young Member" has made it appear; but they might save their pains. The Leamington lay writer, poor innocent, thought it "high time to speak out against the ignorance and recklessness of architects." Time, indeed! Yes, and a good deal *past* the time, my dear Leamingtonian. "High time" at any time this last century or two. High time, when the land began to be cumbered and cursed with the works of these gentry, and rather too late now it is covered with them. High time, as soon as good Mr. Bull began to learn the memorable "Five Orders of Architecture;" as soon as the demons of pride and pedantry began whispering him "Johnny, have a taste;" as soon as he was honoured with the acquaintance of a single member or a single bill of the Per-cent.-on-the-Outlay fraternity; and rather too late now that we are an "Institution" of his poor old realm,—an "Interest" as established as lawyercraft or any other trade interest,—the one kind of thing that, as he well knows by this time, is too strong for him, and can defy him, be it big or little, from the "West-Indian Interest," or "Solicitors' Interest," to the Shoeblack Interest. Yes, Mr. Bull, you're too late. We're in, and need not condescend to argument. Ventilate now *if you can*, John. Drain if you can. Get fitness or durability, or dignity, or aught that buildings ought to have, if you can. Don't think I am at all fool-hardy in thus defying great Mr. Bull. His favourite architects have ten times the effrontery. What say you to Mr. Scott* penning him this passage:—"To get into a healthy state, we [architects] ought to work out the problem afresh; but *as this is impossible*, let us take," &c.? Only think of the confidence in his readers' perfect muddle,—the certainty a man must have before writing thus, that not a single mouth he need care for will exclaim "O high and mighty *architectonicus professor*, if to do what all builders of all other times and regions did, be to you *impossible*, may we not find some men to whom it is *possible?*" But no: Mr. Scott knows with whom he deals, better than the "Young Member."

Poor Mr. Bull's Leamington spokesman thought "that the law should hold a professional man responsible for the proper ventilation," &c. that is, that when costly works are finished, and forthwith found to have had such designing as renders them public nuisances, the circumstance should make some shade of difference, not only as at present, to those *paying for* the said "designing," but those *paid* for it. The idea was far from new; older, indeed, than outlay-paid designing by many an age, seeing that "our master," Vitruvius, descants on the benefits that Ephesus and sundry other cities had derived from laws of the kind long before his time. Such arrangements, we know, are not for Mr. Bull. Their bare mention would raise the most horrible spectres, paternal government, centralization, "Englishman's house is his castle," and the lords know what. However, our "Young Member," superfluously cautious, like the American barrister, "smells a rat, sees it brewing in the storm, and will nip it in the bud." So, to hinder a truth that there is not the remotest danger of his encountering out of the safe regions of talk (so sensitive is the nose of an "interest," to the very wind of a bit of passing truth), he raises the difficulty, "What *is* a properly ventilated room?" and will thank the Leamington writer to inform him. As there seems no particular reason why the latter should stumble on this request in your columns, will you let me attempt a solution of the "Young Member's" perplexity?

Does he know the difference between a properly-*drained* and an improperly-drained courtyard? If not, I will explain as briefly as possible. It is that if you fill the former with water (or anything denser than air), it will all run out, but if you fill the latter, it will not *all* run out; some will lodge somewhere, and remain till it evaporates. Now, when our "Young Member" has so far observed and mastered the laws of this phenomenon, as to know one yard from the other at sight, he may equally know the "properly ventilated room," without experiment: thus—Let him stand upon his head, or effect in any other way an equivalent inversion of the visions thereof, and fancy the ceiling of every room the floor of a courtyard. He will then find just the same distinction among these as among those; namely, that *light, upwardly* pressed fluid, poured *up* into one kind of receiver, will straightway all flow out to the upper sky, while in another it will not *all* (and in the majority of our architects' works not *any*) flow out, but some (or in our case *all*) will be caught and kept, unable to budge one hairbreadth as long as it retains the smallest *upward* tendency,—unable I say, till it shall, in place of that tendency, have acquired a *downward* one; till, in short, the stuff, originally lighter, shall have somehow become *heavier* than air; even as the lodged water in the undrainable yard can by no means be coaxed, by "Young Member" or fifty learned institutes of old members, to move itself aright, till it shall, from being heavier, have become *lighter* than air, and then, be it perfume or muck, you shall drink it; nor can all the queen's horses and all the queen's men remove it from 'twixt the wind and her nobility.

Now the water, we know, may be some days or weeks in acquiring the lightness thus requisite for its own self-return up into the air whence it fell. But as for the *upwardly*-drained poison, collected by the architect and his work, if the "Young Member" will just turn to a still unanswered argument you did me the honour to reprint in your volume for 1852, p. 592,* he will find it proved (I have a right, observe, to say *proved* as long as it stands published and undisputed) that this refuse neither is nor can be in any case *half a minute*, nor under our level ceilings *half a second*, in cooling so far as to acquire the *weight* that will directly cause *its* own self-return *down* into the air whence it *rose*, and into the lungs it last left. (So that, unlike the drainage, it must be disposed of at once or never,—by the structure itself or by nothing,—by the architect or by nobody.) And if you allow me, sir, I would now wish to say, that pending the examination of those arguments, I intend soliciting of the French Academy, I shall be much obliged to any man of science in this country who will point out in them any flaw to invalidate the conclusion that ventilation of the structures of modern European architects is *impossible*; —that their pretended art renders the very simplest sanitary conditions an impossibility, and the discussion of them by "sociologists" a farce;—that this one cause, the multiplication of noxious building (*necessarily* noxious while designed by creatures so circumstanced, so paid, as to have no interest in making it innoxious) is by the most obvious laws of nature, and of human nature, amply sufficient cause, *alone*, for all the extra-natural death-rates disclosed by statistics in any country.†

If the "Young Member" has patience for another illustration, he may distinguish the "properly ventilated room" in another way equally simple. Imagine any room, without its floor, used as a diving-bell; either the water rising into it will displace *all* air, or *some* air will be pent up indisplaceable. The former will happen with every public room, I have heard of, remaining still covered from any age between the times (both inclusive) of the Roman bath-builders and our monks, or those Mahomedans of Spain who nourish Mr. Owen Jones; and if I may venture a guess, probably all those of equally "barbarous" and unarchitected nations to this day. The latter will happen with all the copies and adaptations of the former, in "Five Orders," Romanesque, Early English, Early Anything, or Anything-esque, be it never so "correct,"—all the 300 rooms whereby (according to the "Young Member") Sir C. Barry has baffled the ingenuity of Reid and all ventilators-general,—and the other 300 times 300 works of poor dear Mr. Bull, since he fell into the company of the Outlay-paid. The test is infallible, more so than Saxon "Long-and-short Work," or a Tudor arch. I'll tell you by it whether a piece of work is Pre-Raffaellite or Post-Palladian, and prove it against the whole Archæological Society. It is as true a test of civilization as Liebig's consumption of soap,—this absence or presence of homicidal building,—I beg pardon,—of rooms that would do for diving-bells, or wouldn't. What!—I hear your reader exclaim,—if so, it is a singular coincidence. Oh no, dear reader, not the least singular; the simplest thing in nature. Any deviation from it would be contrary to all known laws, at least of human nature. The innoxious works are innoxious, because their designers *knew* all the pneumatic facts on which innoxious building depends. They are no matters of modern science. *Everything necessary to work any art* HARMLESSLY *has been perfectly knowable ever since the art was necessary.* Noah received, and Noah needed, no more revelations about ark-ventilating than Sir C. Barry. But now observe: while it is a law of nature (*i.e.* of human nature) that they who design for themselves, be they monkish or secular, bond or free, and build for themselves,—or for such masters as the ancient Romans,—invariably *know* all these things; it is equally a law of nature, as sure as gravitation, that your *outlay-paid* designer never knows them, never did, and never will, Mr. Bull, though you bray him in Solomon's mortar. He will not know them though you get them thundered from every teacher's chair between the Schools at Oxford and the ragged school. He will not know them if you put them in the Church Catechism, and new Morning and Evening Prayer, and keep them there till A.D. 3000. He will not know them if the whole race of parrots and jackdaws have then come to cry them hereditarily without teaching. *They* may be taught to know and act upon laws, but no *outlay-paid* animal can. Never while he *is* an outlay-paid animal. Know them! Why on earth should *he* know them? What business are they of his, an outlay-paid animal? Men and animals *know* what concerns them; and these things may concern his masters, but certainly not him.

First, then, he must cease to be allowed to be an outlay-paid animal. By a rational mode of remuneration, it must be brought to pass that whatever is his employer's business is his business. So then innoxious construction will be his business if it be his master's. But how is it to be made his master's? Ay, there's the rub. Glad to leave this animal, I will, if you please, attempt hereafter to solve that question also. E. L. G.

* "Remarks on Secular and Domestic Architecture, Present and Future," a capital book for quick reading, and which, but for a few such passages as this, might pass for an architect's writing.

* See also the testimony of "D." p. 711, last paragraph, and the fair controversy he raised on some minor points, pp. 717, 749, 785, &c. *passim*.

† It will of course follow that all Mr. Scott says of *ceilings*, pp. 53—60, is (to quote his own words on other plastering) "a simple *abomination*."

THE INTRODUCTION OF NOVELTIES.

Many in our own day recollect the introduction of new things, and the adverse opinions which were given on many matters of acknowledged utility, and which are now so common as to attract no particular notice. On looking further back, we notice many things still in use without which, according to our present views, it seems impossible to carry on the ordinary affairs of life;—spectacles, for instance, an instrument which philosophers began to wear in the earliest times, and which were the germ of the wonderful telescope and the forerunner of the microscope and photography. It would be a mighty loss to science, art, and literature, if we were now to be deprived of our spectacles; and yet we are not able to discover the particulars of their first modern introduction, or to whom we are indebted for the invention. The Chinese wear enormous old-fashioned-looking spectacles, and probably did so long ere they were prevalent in the West; and we know that Dr. Layard discovered burnt clay tablets at Nineveh with characters inscribed on them so minutely that a microscope was requisite for their perusal; and that a microscope was actually also discovered there.

Umbrellas, although in use by the Pharaohs in the land of Egypt, in India, Assyria, &c., are not of old date in this country; and many yet living will remember the time when it was considered as an evidence of great effeminacy and foppery for a gentleman to carry an umbrella; and it is only recently that working people began to avail themselves of the use of this covering from the weather. He must have been a man of some nerve

who first carried an umbrella in wet weather in the streets of London! Probably the introducer of this article was an India nabob who was rich enough to laugh at public opinion.

The lucifer-match is as it were a thing of yesterday, and, notwithstanding that it is now familiar over the chief part of the civilized world, it may be remembered with what terrors the phosphorus box, and matches, which preceded the "lucifer," were looked upon by even good housekeepers. The lucifer was not all at once kindly taken to, but now the old flint and tinder-box are scarcely to be met with, except among Parisian smokers, who sometimes use an elegant modernization of the old articles, which may also be occasionally seen in the shops of the London cigar-sellers and tobacconists. We have inquired in many parts of England for a specimen of the old apparatus, but have not been able to meet with one complete; and yet twenty years ago millions of them were in use.

Great is the difficulty in many instances of introducing novelties. Many years ago coal proprietors preferred taking the coals, &c. along uneven roads instead of the comparatively level and easy tramways. People did not take kindly to steam-packets, and it is known to the world what trouble there was to coax people into the use of the locomotive. The jolting pavement of the London streets may for a time be preferred to the proposed tramways, but who can say whether or not both these and even the locomotive may be managed so as to provide for the safety of wayfarers as well as Stephenson took care of Farmer Giles's cows? We are not quite so bad as the Medes and Persians, but are very obstinate to move from old-established things, even if they should be proved nuisances. Remember, for instance, how we have stuck to our town and city graveyards and undrained districts. Ragged-schools, although so necessary, are yet novelties and not properly appreciated; and many say, in spite of the statistics furnished by these places, that reformatories for those born in and accustomed to crime from no fault of their own are not proper for encouragement.

The Brompton Museum presents the novelty of an institution devoted to instruction in art and general knowledge, being opened to the working classes in the evening, the only leisure period which they have, and which, in some instances, for the want of opportunity, is not often very beneficially occupied. We hope that before long there may be more of these novelties provided for the use of the British public; and from the spirit which is shown by the present management of the British Museum we are convinced that the opening of that place, reading-room and all, in the evening, is only a matter of £. s. d. More numerous attendants would be required, for it would not be fair that those who so civilly perform their functions in the various departments of that national establishment should be kept for unreasonable hours.

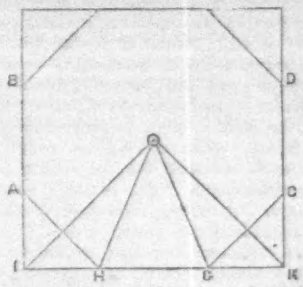
It is to be hoped that the coming year may bring such a novelty as certain means of destroying London smoke, and that it will be as generally adopted as the lucifer-match. Things are moving in the right direction, and we would advise those in authority to use actively the means which are in their hands of stopping an evil of which all complain; and as the old proverb says, "Necessity is the mother of invention," who knows but that we may discover, by the aid of ingenious men, a means of not only saving fuel, but also preventing the smoke from the thousands of dwelling-houses, the wash-houses, and other institutions; and that in the metropolitan squares we may have an atmosphere at times as brilliant as that of Italy, pleasantly varied by grey haze? And then we may be able not only to improve health, but also add to the beauty of the appearance of this famous city.

It will be a novelty to be rid of our November and December fogs; nor is this impossible, for as the marshes get drained these gloomy strangers from the damp lands, which obscure the light of the sun and make the gas-lights look like "Wills o' the Wisp," will, like many other formerly often-seen things, become novelties for comment.

Society of Arts.—The 105th session of this society will commence on Wednesday next, the 17th instant, when will be read an introductory address on the opening of the 105th session, by the chairman of council, Mr. C. Wentworth Dilke. On this evening the medals which were awarded by the council for papers read at the weekly evening meetings during the last session, and for articles submitted to the society's committees, will be distributed.

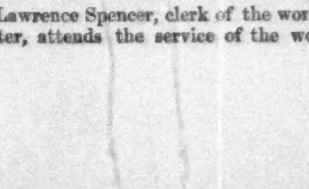
TO FIND THE ORTHOGRAPHICAL REPRESENTATION OF AN OCTAGON.

The following is a solution of a problem of frequent recurrence, and I have never seen any other method of effecting it than the troublesome one of making the plan. It is a simple method of finding the orthographical representation of an octagonal object, the diameter being given, and without having recourse to constructing a plan.



Let the above figure be a regular octagon, of which O is the centre: produce the sides A B, C D to meet the side H G, produced in I and K respectively: join I O, O K, also O H and O G.

Then the angle O I K or O K I = half a right angle = 45°. Also the angle H O G = one-eighth of four right angles = 45°, therefore the angle H O G of the triangle H O G, is equal to the angle O K H of the triangle O K H, and the angle O H K is common to both, therefore the angle O G H is equal to the angle H O K; but the angle O H G is equal to the angle O G H, therefore the angle O H K is equal to the angle H O K, and therefore O K is equal to H K: in the same manner O I or O K may be shown to be equal to I G. From the above investigation the following construction will appear evident:—



Let I K be the diameter of the octagon (the same letters refer to the same parts on both figures): bisect I K in D; draw D O perpendicular to I K, and make D O = D K or D I, join I O and O K—make I G and K H equal to I O or O K, if lines be drawn through the points I, H, G, and K, perpendicular to I K, they will give the orthographical representation required.

Or in practice it may be reduced to a very simple construction thus:—Having drawn the two perpendiculars to I K through the points I and K, set off, on either of them, one half of I K, and from the point where the extremity of I K, bisected, falls on either perpendicular, place one leg of the compasses, open the other leg until it falls on D, the point of bisection of I K, and from the points I and K, lay off this length on I K, which will give the points G and H as before.

John Justice.

ST. PAUL'S CATHEDRAL.

DUTIES OF THE OFFICERS IN RE-BUILDING THE EDIFICE: A MODEL OF THE CHURCH: PROFESSIONAL REMUNERATION.

Looking through the volume of the Harleian MS. No. 4,941, and meeting with a statement of the "officers employed in rebuilding the cathedral of St. Paul, in London, their employment and salaries," I beg to forward a copy, as it serves to elucidate what were the duties of professional men in former times: the spelling in this copy is modernised.

"1. Sir Christopher Wren, surveyor-general, who draws all the designs of the building, hath the universal care thereof, gives all directions to workmen and other officers, examines all accounts, agrees for the prices of workmanship, materials, &c. His salary is 200*l.* per annum.

"2. Mr. John Oliver, assistant surveyor and purveyor, who is constantly attending the work, giving directions to the workmen according to Mr. Surveyor's directions given to him; he measures all the masons' work, buys in all materials that are to be had without travelling into the country, keeps an account of what *stores* are delivered to the storekeeper, and also an account of what *stones* are brought into the church; assists Mr. Surveyor in making of contracts, and examines all accounts, &c. His salary is 100*l.* per annum.

"3. Lawrence Spencer, clerk of the works and paymaster, attends the service of the work, to take care that carpenters, labourers, &c., who work by the day, be employed in such business as the surveyor hath directed to be done; takes an account, together with the assistant surveyor, what *stones* are brought into the work: he receives and pays all the money for workmanship and materials according to a list of debts directed by Mr. Surveyor. He keeps and makes up all accounts, is chargeable with all the *stores*, and inspects the delivery thereof to the workmen: he is also clerk to the commissioners, and enters all orders and contracts, &c. His salary is 100*l.* per annum.

"4. Thomas Russell, clerk of the 'cheque.' He calls over all the labourers, carpenters, bricklayers, &c. who work day-work, three times a day, viz. at six in the morning, at one in the afternoon, and at six at night. He is constantly going from place to place in the work, to keep these men to their business: he keeps likewise an account of materials brought into the work, for that both the purveyor and he are 'cheques' upon the clerk of the work in his account. His salary is 50*l.* per annum."

Like a vast number of the MSS. in question, there is no date to the document, but as John Tillison was clerk of the works in 1685, I presume that this statement is earlier. I may also add, that if the respective amounts of the salaries be multiplied by at least three times, the result will be a near approximation to the value of these offices in the present day.

Reading "His Majesty's Commission for the rebuilding the Cathedral Church of St. Paul's, in London," dated 1673, I see the following passage:—"We have caused several designs to that purpose to be prepared by Dr. Christopher Wren, surveyor-general of all our works and buildings, which we have seen, and one of which we do more especially approve, and have commanded a model thereof to be made, after so large and exact a manner that it may remain as a perpetual and unchangeable rule and direction for the conduct of the whole work." The model here referred to is, of course, *not* the one now in the Kensington Museum, and which still remains in its damaged condition, after all that has been said in promise of its restoration. What, then, has become of the model referred to in the commission? Was it ever made?

An equally interesting paragraph relating to Sir C. Wren I observed in another MS. It also refers to the question of 5 per cent. payment. The amount is connected with the "rebuilding of churches in London under Sir C. Wren, surveyor for the rebuilding of the churches demolished by the late fire—moneys as hath been received and paid by him—from 1670-73."

"By allowances to the officers of the works for the management of the whole, at xii^{d} per lib. for all moneys received and paid."

It would appear that Sir Christopher Wren by this arrangement acted as receiver of money, surveyor, and paymaster, and was paid 5 per cent. *on both*, as payment for all expenses in the matter. This mixture of offices shows that great confidence was reposed in him; but it was not an exception, as down to the end of the last century the architect usually received the money from the client, and paid the workmen. Wyatt Papworth.

DRINKING-FOUNTAINS.

Much surprise has been expressed that the authorities of St. Pancras should have refused the offer of Mr. Gurney, to erect at his own cost, a fountain for the use of the multitude of passengers in the neighbourhood of King's-cross. There can be no doubt of the need for such fountains, in the great thoroughfares of the metropolis, for the use of both human wayfarers and animals. Considering, however, the evil condition of water procured from the bowels of this wide district of populated earth, it is not to be desired that street fountains should be supplied from this source, but with the filtered and best water from the different companies' mains.

Considering the large sum which has been charged to parishes for the supply of water in certain cases necessary for health and convenience, it is to be feared that the charge for the annual supply of street fountains would be very large; and it has been said, that this large payment would be necessary for free public fountains, because the erection of them would be likely to damage, in some measure, the revenues of the companies. We can scarcely think that this will be the case; for, although some of the water-starved poor may rush from their courts, in the same manner as they do from Gray's-Inn-lane to the pump in Gray's-Inn-square, and draw a bottle or jug of water, the street fountains would in no

way interfere with the extent of the water-supply of the houses. It has been suggested, that provided well-disposed and benevolent individuals were to erect street fountains in necessary places, the water companies, without being much out of pocket, might grant the necessary supply free. It would only be during the summer months that they would be in great demand.

Nearly all the wells of the metropolis have been closed as a matter of necessity, and a poor person may travel for long distances without being able to say that his "water is sure."

In former days the conduits of London, and of most of the old towns of England, formed important architectural features; and this is their characteristic on the Continent at the present day. It is to be hoped that, in the erection of these new works, the best architectural and sculptural skill may be employed; so that the fountains may be made not only a great public accommodation, but also things of beauty in the streets.

The immense extent of the traffic in the public thoroughfares will, as a matter of necessity, prevent in many instances the placing of these objects in the centres of the streets; but if the bustle of the metropolis demand that some of the fountains be made of small size, and out of the way, they need not be inartistic and ugly.

The Government might do good service in this movement, by placing drinking-fountains in the parks, and in connection with such national establishments as the British Museum. In front of this building there is an excellent site for the purpose.

OPENING OF THE BRITANNIA THEATRE, HOXTON.

In our last number we offered to our readers some notes relative to the construction and decoration of theatres, supplementary to others on the same subject, and on the tendencies of the dramatic art as they are at present exemplified.* Another theatre of those, the building of which led to the consideration of certain points that we took up, and one which we have in great part already described—the Britannia Theatre, Hoxton—was opened on Monday evening last, in a manner which is in many respects creditable to all parties concerned. In our present number we give the interior of this building, so far as representation can be conveyed; for, perspective drawing, it is right to say in repetition of what we have remarked once before of late, must fail to show what the eye really receives at a near view. The eye is not able to take in the whole of an object except through an infinite number of observations, whilst the theory of perspective starts with the idea of a fixed station-point. The discrepancy between the actual impression and a drawing, is from these causes, most marked in the case of an interior; and lines circular on plan, or far more so those which are, as in the present instance, elliptical, may, in contradistinction to the case of an object seen from some distance, be regarded as impossible of representation as they are seen—or taking in an ordinary field of view. Our particulars printed may however, we hope, be depended upon better than those of our contemporaries, who, one and all, in addition to their mistakes in the dimensions of the Pavilion Theatre, describe its proscenium and other parts as completed. Our chief illustrated contemporary is, by some accident, so wide of facts in his view of the interior of that theatre, as to represent three tiers instead of showing the pit extending underneath the boxes or principal tier of the two (boxes and gallery,) which alone exist except close to the stage where there are private boxes. The writer of the account in the same publication, says that the *elegance* "somewhat takes off from the impression" of the size, and characterizes this as "a proof of taste rather than otherwise,"—criticism such as every tourist has been repeating these fifty years, since some one said the same thing of St. Peter's at Rome, and which doctrine we shall now never hope to get exterminated, even though we should show every week, what is obvious to any thinker, namely, that actual size non-apparent, is simply lack of effect, and to the extent in question, therefore waste of brick or stone.

It would be useful, however, to ascertain the reason of the apparent magnitude of the theatre last opened. The effect may, perhaps, be due to the number of its divisions, and to the great amount, comparatively, of detail and ornament, or generally to contrast, as much as to the extra 10 or 12 feet of width on the ground. The curtain-opening is somewhat smaller than that of the other theatre we have named,—the dimensions being 35 feet across and 37 feet in height, as set against the 40 feet and 42 feet, which form probably what have been observed in the existing arrangements in that other case.

The plan of the Britannia Theatre is, as we have shown, peculiar, and one which is deserving of a certain amount of attention by architects who have to endeavour to meet the difficulties of theatre-planning—those which, as we observed, occur in the portion of the "auditory" at either side next the proscenium; and which, usually appropriated in part to private boxes, in most cases has a number of seats, whether in the pit or the ordinary boxes, most inconveniently located for seeing the stage. The *datum* generally for a description of the decorative effect in theatres, would be the line, or curve, defined on the plan by the box-fronts, with which the circular plan which is most common for the ceiling, may or may not correspond. The relative advantages of the forms for seeing, however, would apply only as regards front seats, unless the whole number of seats took the same outline as *datum*, which is not usual in the pit of a theatre, nor yet in the boxes at the sides. Under any of the existing methods as to plan, extreme width in the pit area, as contrasted with the ordinary proscenium opening and the mode of setting the scenes, inevitably involves a number of bad places in the parts of the house referred to; and the objection can only be overcome by dispensing with those seats, the space being given wholly to staircases, or to dressing-rooms and accessories of the stage—unless it be preferred to enlarge the proscenium opening, or make such an alteration in the scenes as would perhaps inconveniently restrict the area, if not the depth, of the stage. The area required for the pit-audience being thus to be provided in depth, subject to a limitation of distance from the stage,—or as regards any inconvenience as to hearing, or otherwise, from being under the boxes,—the position of the back wall of the pit, the distance of the best seats of the boxes from the stage, and the distance of those of the upper boxes and gallery have to be determined,—as to all which points there are conflicting difficulties. For, if the line on plan which appears to be best for the lower boxes, be followed throughout, the result in a lofty auditory will be a gallery looking too much down upon the stage. In all respects, therefore,—both as to plan and section,—we see no reason for altering our opinion that greater approach than has yet been made to the semicircular form and descending *cunei* and seats of the ancient theatre, would be desirable,—albeit it would have to be not forgotten, that the business of the ancient drama in great part went on in the orchestra, or at the centre of the auditory itself, rather than within the depth of the stage, as in the modern drama—probably more than the other characterised by perspective and scenic effects. The principle of arrangement in part was attempted by the late Mr. Beazley, by the provision of the *balcon* to the boxes in the Lyceum Theatre, a feature which also will be found in the new Adelphi Theatre,—to which building we shall return in a future article.

It will be recollected that the *datum* of plan, as above referred to, in the case of the Britannia Theatre, is an ellipse with the major axis parallel with the front of the stage (and of about 50 feet, between the box-fronts, across the house;) and that the form is exactly followed in the ceiling, and deviated from only in the box-fronts at those parts which impinge upon the opening of the proscenium. At these places, slight curves of contrary flexure are introduced, with good decorative effect, to meet the angles of the splayed sides of the proscenium, in which splays there are private-boxes, being in the Britannia the only ones in the house. The opening of this part of the proscenium, that is to say, of the splays, and the consequent deviation just at those parts, from the ellipse of the plan, is less than we expected: consequently, although the private-boxes do not look so much *from* the direction of the stage as in the alternative case, there are unquestionably bad seats in the pit and boxes. It is true, these are few in proportion to the general area, and, perhaps, considering mere number, they are few in comparison with what there are in many theatres: but they result directly from the principle of the plan, no less than any advantages which there are in the auditory generally; and the simple consequence of having such seats is what we noticed on Monday night, either that they are not occupied at all, or that they are occupied in a manner which leads to interruption of the performance.

It is apparent, however, that, besides advantages as to some of the seats, the oval form chosen, and carried into the decoration of the ceiling, is the chief source of the effect which there is in the house as seen from those boxes described as otherwise unfavourably situated. The gallery, it is proper to remind our readers, occupies great space as well in height and frontage at the curvature of the ellipse, as in the depth to which it extends backwards. It takes in space beyond the general auditory, by being made to extend over the refreshment-room of the boxes. When crowded on Monday with "the unwashed," at 4d. and 3d. a head, it formed a curious sight, not altogether in harmony with the decorations. These last, however, may help to induce habits—the want of which is the chief cause of any prejudice against what are called the lower classes, or at least so help when the means of cleanliness are adequately supplied in towns. In our former article* we stated what was the estimated number of the whole audience, and what were the charges for admission then proposed; but probably 3,500 persons or more were collected in the ample space of the theatre on Monday night. Here then is a school for 500,000 or 600,000 persons annually, where instruction, evil or good, is conveyed, and whether considering the agency employed, or the class, and the age in great part of the pupils, is conveyed in the manner which will leave the deepest impressions, and will most powerfully operate on the moral and social condition of society at large. We are amongst those who believe that the mere decorative features of places of public amusement, if marked by propriety and taste, are not wholly without influence, though silent and unseen perhaps, in mollifying the manners of whatever the class, or in standing between what we are told, in the same language, is a brutalizing tendency to which humanity is open, and which, it is said, arts or learning suffer not to prevail. We look hopefully for better civilization of our fellows, from every occupation for the eye and ear—from every amusement and every *art* that addresses itself to either entrance, whether painting and sculpture, or music and the drama, or from architecture and decorative and ornamental art.

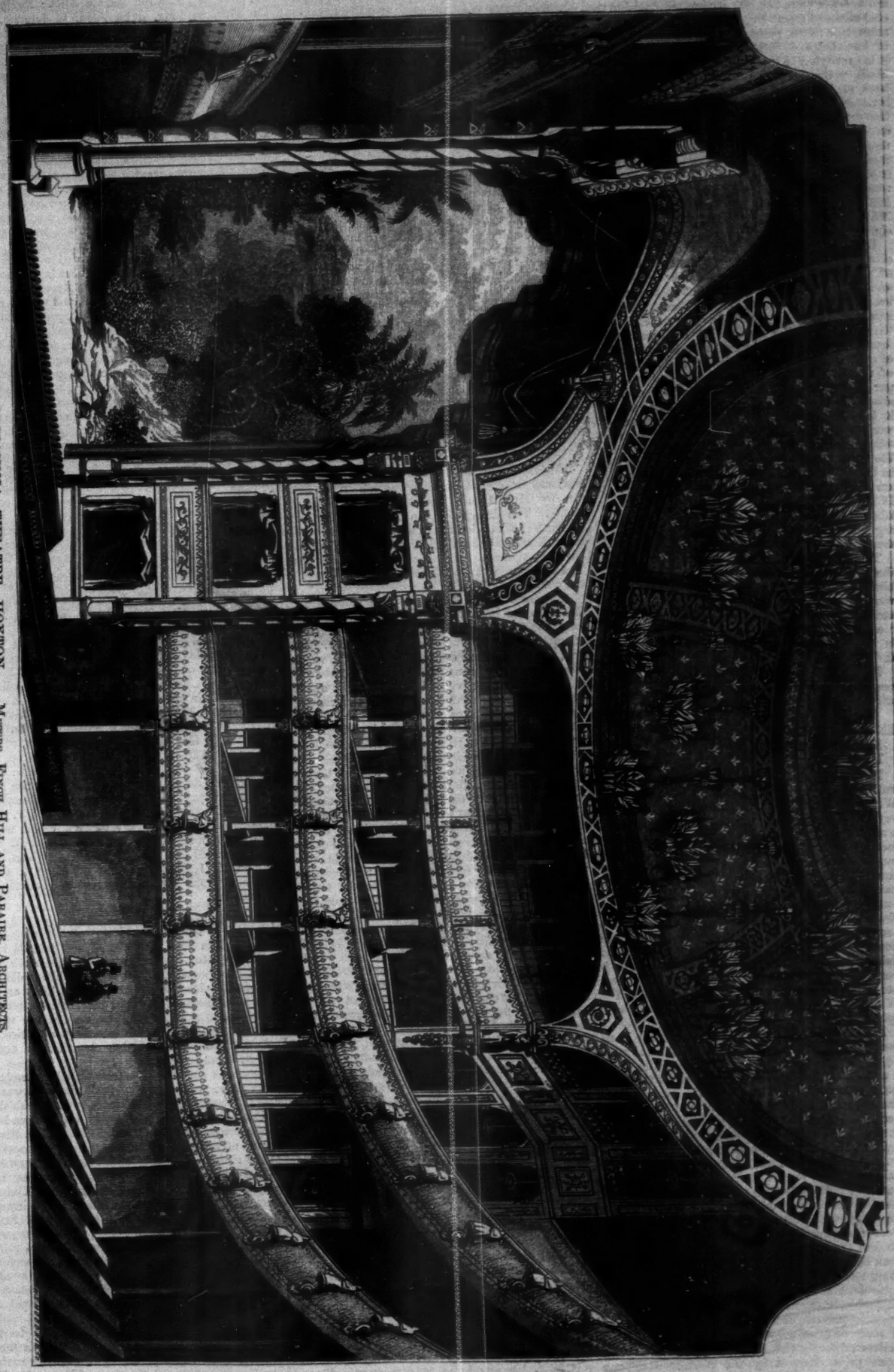
But we are enthusiastic enough not to disregard the equal importance of attention to comfort and convenience of the classes we have referred to, in places of their resort, as also in their homes, nor to treat the arrangements for the safety of life as less called for in building for one class than for another.

In the Britannia Theatre the architects have provided an amount of entrance and staircase accommodation exceeding what is usual. Their plan affords five staircases mentioned in our former article, added to numerous openings between the *promenade* or corridors and the pit, and has certainly much better entrance and exit-ways for the street communication than are common. There are, it appears, two of the staircases that can be used for the gallery part of the house. The arrangements on the opening-night, however, whether resulting from the plan of the house or other cause, were hardly such as we should wish to see observed. One of the staircases was not used at all for the gallery. Handrails to walls were not fixed in time, where the omission might have been serious. The principal staircases have very long flights, with great width of stairs: that is to say, space may be ample, but *plan* to ensure safety is open to question. There will probably be some difficulty in having what is necessary for safety, and in keeping up the distinctions between the divisions of the audience. It is not sufficiently the practice to consider these distinctions, or as to admission-money, as the basis, and to design the whole plan thereupon, with entrances and staircases in no way interfering with one another; though we have allowed, the arrangement required would often demand conditions of site different to those of the present case. The charges on the opening-night appear to have been on the whole lower than was at first intended, and distinctions between the side-boxes and those of the centre did not seem to be observed. The charge for the boxes and stalls (in communication with one another) was 1s.; whilst to the pit, and box-slips on the O P side, it was 6d. The slip-boxes on the opposite side being connected with the staircase used for the gallery were appropriated accordingly. We hope the details of these arrangements—part and parcel of what is required towards public safety—will be very well-considered. We were not able to get into the gallery; but in the box-slips, ventilation certainly appeared to have been attended to with unusual success.

Our observations having extended further than we first proposed, we must postpone the descriptive particulars of the decorations till next week.

* See page 738 *ante*, also pp. 644 and 654.

* Page 644.



THE BRITANNIA THEATRE, HOXTON.—Messrs. Finch Hill and Paraire, Architects.

MINERS AND WASTE OF LIFE.

A RECENT parliamentary paper shows that there are no fewer than 230,000 persons employed in the coal-mines of Great Britain. A marked improvement has taken place in the manners and extent of knowledge of this useful body of workers, and it is gratifying to learn that in the Wakefield and Methley district a combination of the men has been made for the purpose of raising funds for investment in coal-mines and other safe ventures, the proceeds of which are to provide for sickness, and such other ills, to which this class of men are more liable than some others. The necessity of means of relief in case of sickness or violent death is shown by the following figures:—In 1851, the number of lives lost was 984; in 1852, 986; in 1853, 957; in 1854, 1,045; in 1855, 963; in 1856, 1,027; in 1857, 1,119. *Seven thousand and eighty lives lost in seven years!*

It is noticeable that no class of men have so often differed with their employers on the matter of wages as the coal-miners of Northumberland and Durham, and it is feared that these have not been for the benefit of the workers. The men, however, say that the colliery proprietors had themselves set the example of combination by forming a sort of corporation to limit the quantity of coal wrought in certain districts. The duration of the lives of the pitmen is short, and the great per-centage of what are called accidental deaths shows the necessity of provision for families; and it is stated that at the present time those who work in the deep darkness of the mines, in an unwholesome atmosphere, are paid for all this risk of life at the rate of 3s. 6d. per day during six days in the week. This seems a small payment for the amount of skill which is required, and the danger. It is, however, clear that in this description of labour, as in others, the rate of wages will be regulated by the proportion supply bears to the demand.

The number of accidental deaths is a matter for the serious consideration of all; and it has been hinted to us that if the lives lost in the coal-pits were charged to the owners in the same way that accidents are laid to the charge of railway companies, instead of the thousand lives lost each year in the coal-mines, we should have but a tithe of their number of deaths.

Mr. Richard Bayldon urges, in a pamphlet recently published, the further association of the miners for mutual aid.

EXPERIMENTS AS TO THE COST OF GAS IN THE STREET-LIGHTING OF WESTMINSTER.

Two important reports have been issued by authority of the Westminster District Board of Works on this subject, one by Mr. R. R. Arntz, surveyor of the board, and the other by Mr. Hughes, a member of that board, and one of the honorary secretaries to the managers of the metropolis gas inquiry. The experiments were made upon twenty lamps, namely, twelve of the Chartered Gas Company's 832 lamps; four of the Equitable's 75 lamps; and four of the Western's 182 lamps. Each company is bound to supply light equal to ten spermaceti candles, burning 120 grains per hour, from sunset to sunrise, or twelve hours daily on the average. The Chartered alone is bound to supply a certain number of cubic feet per hour, viz. 2½, and of cannel coal gas. The Western also supply cannel, but at their own option apparently.

It was found that the Chartered lamps in no instance had a supply at twelve p.m. of more than 1¼ cubic foot per hour, and sometimes less than 1 cubic foot, the deficiency beginning at the early hour of nine p.m. The Equitable, which, it is shown, ought to burn at the rate of 5 cubic feet per hour of common coal gas, was found to supply, at the highest rate, only 3¼ feet at 12 p.m. one light at 10 p.m. having been found burning only 3·2 feet; while at 2 a.m. the quantity burnt was only 2¼ feet, or scarcely more than half the proper quantity. The Western was found to be much more equitable than either of the others in the supply given. The rate at which the Chartered were charging for the supply actually given was no less than 10s. 2d. per 1,000 cubic feet! and even had they afforded the requisite supply, their charge of 4*l.* 7s. 6d. per lamp would have been equivalent to 6s. 9½d. per 1,000 cubic feet. The Equitable, also, were charging in excess of the price to private consumers, as well as in excess of their own actual supply. The price per lamp contracted for by this company is 4*l.* 2s. 6d. The mean price charged by the Western Company (4*l.* 10s. 6d. per lamp) was found to be about equivalent to 6s. per 1,000 cubic feet, being the same charge as that made on private consumers.

Mr. Arntz maintains it to be wrong in principle to charge so much for the wholesale consumption of public lamps as for the small quantities required by private consumers in general. He also points out that from the practice of reducing the pressure as the night advances, without any readjustment of the burners, the companies *must* either burn their gas greatly to waste in the early part of the evening, or the lights must become seriously deficient as the night wears on; and that some system of readjustment of the burners is absolutely requisite to a proper system of lighting under present circumstances.

Mr. Hughes's report shows that the total amount of actual imposition on the district by the three companies is 2,012*l.* 6s. 1d. per annum, the lion's share of which (1,750*l.* 13s. 4d. on 832 lamps) was that of the Chartered Company. The Board actually pay 2*l.* 2s. 1d. per lamp to this company for the gas they give (or rather for the gas they do not give) over and above the heavy charge of 4*l.* 7s. 6d. to which they are entitled by contract. Computing the common gas to be supplied at 3s. 3d. per 1,000 feet, the price which the Phœnix Company state, in a parliamentary return, as their charge for public lamps; and assuming 4s. 4d. as a proportionate price for cannel gas, the price which the Chartered Company ought to charge, per lamp, is 2*l.* 5s. 5d. for the supply actually given; that of the Equitable, under like circumstance, 3*l.* 3s. 1d.; and that of the Western, 3*l.* 9s. 9d.

PROVINCIAL NEWS.

Ventnor.—The foundation-stone of the new National Schools at Ventnor was laid on the 25th ult. by Mrs. Albert Hambrough, of Steephill Castle. The design for the building is by Mr. C. Turner, of Southampton, architect. The building will comprise boys', girls', and infants' schools, with apartments for the master and mistress. The frontage will be 50 feet. Mr. H. Rooke is the contractor.

Gloucester.—The first sod of the reservoirs at Witcomb has been turned by the mayor. They form the conclusion of the comprehensive system of water supply adopted for this city. Mr. Bateman, the engineer of the Manchester works, recommended the construction of these reservoirs at Witcomb, to receive and store a supply during the winter months sufficient for all the requirements of the citizens throughout the summer. The site is a deep ravine, formed by Birdlip and Cooper's Hills, down the centre of which the brook intended to be penned up flows. An embankment, or dam, with wings at each end, will be thrown across the valley, thus forming the receiving reservoir; and some distance farther down the dell a second embankment will be constructed, forming a second reservoir, from which the town will be supplied direct. The gathering ground will exceed 1,000 acres: the depth of the water in some places will be 40 feet; and the reservoirs are estimated to contain a sufficient supply for six months for a population of 30,000 persons. At a meeting of the Local Board of Health, held previously to the laying of the first sod, the contracts for constructing the reservoirs and supplying the pipes and other necessary ironwork, were decided on. The estimate of the surveyor, Mr. Hanvey, for the construction of the reservoirs, conduits, and attendant's house (contract A) was 14,205*l.* 13s. 2d.; and the following tenders were received:—Messrs. Hamill and Foulkes, London, 13,820*l.* 2s. 5d.; Mr. J. Thompson, Gloucester, 13,908*l.* 2s. 9d.; Mr. J. Aird, London, 14,668*l.* 11s. 9d.; Mr. T. Parry, Gloucester, 14,822*l.* 13s. 7d.; Mr. J. Blinkhorn, Gloucester, 15,477*l.* 3s. 4d.; Mr. W. Easted, Baldock, 16,147*l.* 8s. 4d.; Mr. W. Tredwell, Gloucester, 18,000*l.*; Mr. W. Webster, 18,232*l.* 4s. 2d. For contract B—pipes, bends, and junctions—Mr. Hanvey's estimate was 492*l.* 16s. 3d. The tenders were:—Messrs. Varley, Liverpool, 469*l.* 6s. 6d.; Butterby and Co. 484*l.* 12s. 3d.; Spital, Newport, 498*l.* 1s. 9d.; Bayly and Co. London, 502*l.* 0s. 11d.; J. M. Butt and Co. Gloucester, 502*l.* 9s. 11d.; Cochrane and Co. Dudley, 503*l.* 16s. 3d.; Savory and Son, Gloucester, 508*l.* 12s. 9d.; Kirby, Birmingham, 508*l.* 13s. 9d.; Barrell, Staveley, 534*l.* 0s. 5d.; M'Clean and Co. Glasgow, 544*l.* 14s. 6d.; Chandler, Preston, 572*l.* 12s. 3d.; Sharpe, Lancaster, 575*l.* 10s. 9d.; Oaks and Co. London, amount not mentioned. It was stated that Oaks and Co., Cochrane, Butterby and Co., and Sharpe, had not complied with the specification. For contract C—cast-iron sluice valves—Mr. Hanvey's estimate was 330*l.* 10s.; and the tenders were:—Savory and Son, Gloucester, 180*l.* 15s.; Sharpe, Lancaster, 186*l.* 10s.; Blakemore, Wednesbury, 247*l.* 10s.; Jennings, London, 253*l.* 1s.; Guest and Grimes, Rotherham, 305*l.* 7s.; Cochrane and Co. 309*l.* 5s.; Stoddart and Co. 319*l.*; Bayly and Co. 372*l.* 2s. Mr. John Aird, of London, was accepted as the contractor for the construction of the reservoirs, at the amount of the surveyor's estimate, namely, 14,205*l.* 13s. 2d. The contract for supplying the requisite cast-iron pipes was given to Messrs. Varley, of Liverpool, for 469*l.* 6s. 6d.; and that for supplying cast-iron sluice cocks and valves, to Messrs. Savory and Son, of Gloucester, for 180*l.* 15s. The question of the duties of the surveyor was discussed at some length. To save expense, the Board decided on employing their surveyor as engineer to the works about to be commenced at Witcombe, with extra remuneration, while he was to provide a person, in order that his ordinary duties might not be neglected. Ten years ago there was not a worse drained city in England than Gloucester. At that time, however, the Board of Health Act was brought into operation; and besides laying down a complete system of drainage, the streets have been macadamised, and a new market and a new corn-exchange erected. In all these improvements an outlay of 100,000*l.* has been incurred.

Grimley.—The new schools here, for the education of the children of the working classes, have been opened. The cost of erecting these schools has been borne by the present High Sheriff of the county, Samuel Baker, esq. of Thorngrove. The school-house is situate within a short distance of the parish church, and has one large room or hall for the tuition of both boys and girls—in number about 120. The building is constructed of brick. There are three windows of large size to the school-room. The building is from the design of Mr. Baker, the donor. It has been erected by Mr. Taylor, of Grimley, the carpentering work being executed by Mr. Hayward, also of Grimley.

Stockton.—The following were the tenders for the erection of the Stockton Baths and Washhouses. Messrs. Oliver and Lamb, architects. Quantities supplied:—Morton, Stockton, 983*l.*; J. and J. Brown, Stockton, 968*l.*; H. Watson, Newcastle-on-Tyne, 890*l.*; Dixon, Brothers, Newcastle-on-Tyne (accepted), 835*l.*

Rotherham.—The foundation-stone of the Wesleyan new day-schools, in course of erection in Talbot-lane (on ground purchased of Thomas Badger, esq.), has been laid. The schools will be Elizabethan in character. They will consist of an infant school, 33 feet 6 inches by 22 feet, with one class-room attached; also a school-room for boys and girls, 63 feet by 22 feet, and two class-rooms. Both schools are estimated to give accommodation to upwards of 300 pupils. There will also be a teacher's residence, and playground for the girls and infant pupils. The design was selected in competition, and is the production of Mr. Wm. Blackmoor, architect, Rotherham, under whose superintendence the work is being carried out. The estimated cost of the buildings, fittings, and ground, is 1,758*l.* a portion of which is to be obtained from the committee of Council on Education.

CHURCH-BUILDING NEWS.

Ely.—The Wesleyan chapel and schools have been completed. Their site is on the north side of St. Mary's-street. The front of the buildings are of white local bricks and stone. They are set back some distance from the road, and enclosed by walls and iron railing. The cost of the works amount to 1,250*l.* which has been obtained by subscription. The works have been carried out by Mr. Freeman, of Ely.

Ospringe (*Kent*).—The church edifice restorations here having been completed, the edifice was re-opened for service on October 19, by the Archbishop of Canterbury. The new works, which have been conducted under the superintendence of Mr. Blackburne, architect, of London, comprise a re-seating of the church, with substantial oak seats, new roof to the chancel and south aisle, new screens, new pulpit, and an entire re-paving with Minton's tiles, &c. A new memorial window, by Willement, has also been inserted in the Decorated South Chapel. The contractors for the works were Messrs. Day and Whiting, of Ospringe.

Sleaford.—The estimate of Mr. E. Browning, for cleaning and restoring the masonry of the nave and aisles of Langtoft Church, and restoration of the west windows, with fittings to the chapel, &c. has been approved of.

Moreton-in-Marsh. — The alterations to the parish church are progressing towards completion. Messrs. Young and Co. are the contractors employed to carry out the plans of Messrs. Poulton and Woodman. The contributions received amount to nearly one thousand pounds towards the requisite sum for completing the work.

Uttoxeter. — The foundation-stone of a new church, at Marchington Woodlands, was laid on the 26th ult. The site for this church, as well as adjoining land to form part of the endowment, has been presented by Mr. Webb, of Smallwood Manor. The structure is being raised by subscriptions, aided by grants. A school for the children of the district is also in contemplation. Mr. A. D. Gough, of London, is the architect; and Mr. W. Evans, of Ellastone, the builder.

Queniborough.—Of the church here, the *Leicester Advertiser* says,—This sacred edifice, the spire of which is the towering landmark in the valley of the Wreake, has undergone a thorough repair and partial restoration in the interior, under the direction of Mr. Goodacre, architect, of this town. The old pews or boxes had been suffered to fall into a dilapidated state. Attention must soon be paid to the south aisle wall, which is now propped up by unsightly thick buttresses. The pillars and arches have been scraped, repaired, and restored. Accommodation has been made for 150 worshippers by having open seats, which are of red deal, stained and varnished. In the chancel a new floor has been laid in black and red quarries, and a new altar-rail put up. These and other improvements have been carried out under the superintendence of Mr. Goodacre; and the works have been executed by Mr. Gibson and Mr. Yates, of Leicester, and Mr. Sherwood, of Hungarton.

Blackfordby.—The new chapel here, erected from a design by Mr. H. I. Stevens, of Derby, architect, consists of a chancel, nave, and bronch spire attached to the south side. The style of architecture, generally, is of the Early Decorated period. The stone walls are pitch-faced. The lower part of the spire forms a porch, with two windows. The seats are open, with square ends, and will accommodate about 280 persons. The roof is formed of hammer-beams, braces, and struts. The west window comprises two lancet lights, with trefoiled heads, and a circular sex-foiled opening above between them. Some more windows will be wanted in the north wall, for which there are spaces, when the others are filled with stained glass. The roof of the chancel is inferior to that of the nave. The only two monuments in the old chapel have been preserved in the new. The estimated cost of the building was 1,315*l.* On the 27th ult. the chapel was opened for the performance of Divine service.

Church Lench.—A sum of 1,400*l.* has been expended on the restoration of Church Lench Church, near Worcester. Mr. F. Preedy, of that city, was the architect employed. Mr. Hunt, of Evesham, rebuilt the chancel; Mr. Cheesman, of Redditch, decorated the roof; Mr. Walker, of Evesham, restored the body of the church; Mr. Moysen, of Birmingham, executed the carved work; Mr. Rimmington, of Skipton, fitted up hot-air apparatus; and Messrs. Brown and Thomason, of Birmingham, and Mr. Leaver, of Maidenhead, supplied the fittings for artificial lighting. The chancel has been almost entirely rebuilt; the walls of the nave and aisle made good; the old wood roof of the former being thrownopen, after being strengthened and beautified by new work; and a new roof put on the aisle. The walls, constructed of rough rubble, have been coloured over again, while from their exterior the roughcast has been removed and the joints pointed. A new south porch, of stone, has been erected, also a new vestry, north of the chancel. The tower has been repaired, the top part of it being renewed, with battlements, crocketed pinnacles, &c. Perhaps the most prominent feature of the decorations is the painted windows. The east window of the chancel is a new one, of three lights, with Decorated tracery, and contains the subject of "The Crucifixion." A south window in the chancel was inserted by the rector,—subjects, "The Raising of Lazarus," and "The Death of St. Joseph," from Overbeck. A second window on the same side contains "Simeon and Anna praying in the Temple;" a third, "The Woman taken in Adultery," and "Mary Magdalen anointing Christ's Feet." The north window of the chancel contains "The Agony in the Garden" and "Christ Washing the Disciples' Feet." All the chancel windows have two lights except the eastern one. In the aisle a memorial window has been raised,—subject "The Resurrection," with the two disciples approaching the sepulchre, also the holy women bringing spices to embalm the body, and the angel pointing upward to the risen Saviour. Hard by is a little window, given by a voluntary subscription of the poor,—subject, "The Widow's Mite." In the north wall of the nave is a memorial window. This is an old Perpendicular window restored,—subject of painting, "The Ascension." The clerestory windows opposite want subduing. The western window of the aisle and that underneath the tower also require stained glass. The sanctuary, or easternmost part of the chancel, has its roof powdered with stars, the sacred monogram, emblems of the passion, &c. in gold on a blue ground; and the remaining portion of the chancel roof, the fleur-de-lis, roses, &c. on a light buff ground. The walls, both of chancel and nave, bear "chosen sentences" in old church text. The reredos consists of tiles, arranged lozengewise, and in the centre one large slab of slate, on which is painted, "Christ meeting the Disciples at Emmaus," presented to the church by the artist himself.

Llandwrog.—The first stone of the new parish church of Llandwrog, near Caernarvon, has been laid. Mr. Kennedy is the architect.

Newport. — The cemetery for this town is making progress, according to the *Shrewsbury Chronicle*. The lodge at the entrance, and the chapel in the middle of the ground, are in the Gothic style. The lodge rises to an elevation of 32 feet from the ground to the summit of the ridge, and will be ornamented by a Gothic tower over the porch. The chapel, from the bell-turret to the top of the spire, is 34 feet. It is about 30 feet in length and 16 feet wide. The buildings, under the superintendence of Mr. Sugden, of Leeds, architect, are being erected by Mr. W. Williams, of Shrewsbury.

AUSTRALIAN NEWS.

The electric telegraph from Adelaide to Melbourne is in full work. The line northward from the latter capital to Sydney is in a state of forwardness, the work being in progress on each side of the border; the junction to be at Albany. When completed, the colonies of New South Wales, Victoria, and South Australia, will have the benefit of rapid communication to the extent of nearly a thousand miles.

The new lighthouse at the entrance of Port Jackson is being finished. It stands on the edge of the cliff forming the inner South Sea-head, at an elevation of 60 feet above sea level.

St. Francis Xavier's Cathedral Church, Victoria-square, Adelaide, has been dedicated. It is a very extensive edifice, built from designs furnished by Mr. Charles Hanson, of Clifton, by Mr. Kingston.

Amongst the various public buildings of Melbourne, the new Free Public Library is one of the most remarkable. The entrance-hall is decorated with Corinthian columns and entablature, enriched ceiling, and a pavement of tesselated marble. A grant of 20,000*l.* has just been given for adding a new wing to the structure. The arrangement of the books is said to be excellent: 5,000*l.* were voted for new books last year, and a similar sum this year.

The new Houses of Parliament, at the same place, are not yet completed. The interior decorations are said to be very gorgeous; and the structure, when completed, will cost little less than a million sterling. The suburbs, such as Collingwood, Brighton, Richmond, and St. Kilda, have more than kept pace with the progress of the city, and are being studded with beautiful villas, terraces, &c. There are three very good theatres, —the Royal, the Princesses, and the Olympic,—as also a Cremorne. Shops and public buildings of considerable architectural pretensions have everywhere arisen. Gas has been introduced into the streets and several public and private edifices.

WORKMEN AT LINGFIELD, SURREY.

On paying a visit to Lingfield some few days since, we found the greater part of the flooring of the church turned up for the purpose of laying down pipes for warming. Being admirers of art, whether ancient or modern, we were greatly pained and angered to see that no care whatever had been taken to preserve the handsome monuments, brasses, &c., from heedless damage of masons, plumbers, and labourers. On the interesting alabaster tomb in the side aisle, there lay a trowel and mason's chisel; and the altar-tomb opposite, which carries the large brass effigy of one of the Lords of Cobham, was unapproachable, from the dirt and sand upon it, which was also heaped up beside it, covering another brass. Surely, a few boards, a piece of matting, or some old sacks, could have been found to spread over these invaluable memorials, which date back upwards of 400 years!

If we are unable to leave any worthy testimonials of our own time as a legacy to future generations, we should at least be careful to transmit to them, as uninjured as possible, those heirlooms which the greater skill of our predecessors has bequeathed to our care; and we ought to consider ourselves merely as stewards of them, and as bound to give an account of our stewardship. We fear the present incumbent of Lingfield will have some sins of omission to answer for in this respect, however worthy a man he may be in others. When it was somewhat strongly represented to him that there would "soon be no brasses left, if the workmen were allowed to treat them thus," he calmly replied, "Oh! they won't hurt them much." "*Much!*" As if hurting them *at all* were not an unpardonable sin.

Nor was this interference, on the part of a stranger, impertinent, or uncalled for: one of our party remembered an additional piece of the label proceeding out of the mouth of Master John Knoytt, one of the masters of Lingfield College, which has disappeared since 1846, but which is copied in his rubbing; and also some portion of the hair of another effigy.

We walked over the floor-joists to see the two incised tiles, mentioned some time since by you, which are almost unique specimens, and found *both* very much shattered; whereas, when we saw them last autumn, the larger one was almost perfect.

But to return. Do, pray, put a few strenuous words of rebuke into your powerful paper, against such ruthless destruction of these and similar treasures, which, once lost, can *never* be replaced, and thus earn the lasting gratitude of

THREE RUBBERS.

OUR STREET ARCHITECTURE.

SIR,—I am glad to find you are pursuing the subject of our street architecture, and, with your permission, would add a few words on the subject.

We are in the habit of comparing the architecture of London and Paris, and the comparison will assist me in a remark or two I have to offer. What, I would ask, is the predominating character of Parisian architecture? I should say the *horizontal principle:* the buildings of Paris being erected in large masses of a uniform character, this principle can be carried out with great effect. In London, on the contrary, the prevailing feature is, *or ought to be*, the *vertical character*, in consequence of the narrow frontages of most business fronts, the great value of land, which leads to the erection of very lofty buildings, in order to make the most of our ground, and, I may add also, from the absence of any controlling power compelling us to uniformity in our streets. (?)

I have said that the prevailing feature of London street architecture *ought to be its vertical character*, but, unfortunately, we find that in the great majority of cases our houses are built upon the opposite principle, however narrow and however lofty they may be. And what is the result? Look at the houses in Cheapside, for instance: surely no one will contend that the general effect is satisfactory. Whereas, had they been built upon a more *natural* principle, with gabled roofs, and treated generally upon the vertical principle, we should have had a pleasing and picturesque effect, notwithstanding the "infinite variety" and varying heights of the buildings. In proof of this, I need only refer to some of the old continental towns, or to some few of our own old towns, such as Chester.

Though the adoption of gabled fronts does not necessarily involve the use of Gothic architecture, still I should like to see this style introduced into our London streets, and I am much surprised that our architects, who are so strong in their assertions of the universal applicability of Gothic architecture, do not reduce their theories to practice, and favour us with a few Gothic buildings in the City of London.

I quite concur with you in reprobating the enormously heavy cornices and projections now so much in vogue, and I think that we might in this respect take a useful hint from our Paris brethren, of whose works you have recently given us some examples.

I hope to see the more general adoption of relieving arches over shop-fronts, which give a stability both in appearance and in fact much wanted. The practice of piling up masses of brick and stonework, without any *apparent* support suitable for the weight to be carried is very prevalent. Thus we frequently see fronts apparently carried by some light attenuated iron columns utterly inadequate for the task, the real duty being done by some *concealed* bressummers.

Architects in general seem completely to neglect the sides of their buildings in street architecture. We continually meet with most elaborate *fronts* over-crowded with ornament, while the return walls and chimneys are constructed of the meanest materials, and, in fact, perfectly neg-

lected. A notable instance of this may be seen in the British Museum—likened by *Punch* to a gentleman with a very fine waistcoat and a very shabby coat. I should like, also, to see a little more of the roofs of buildings, instead of their being hidden by clumsy and expensive balustrades.

One word on the use of coloured bricks and tiles. Would it not be well to limit the use of materials of a different colour from the mass of the buildings to the constructive features, such as the arches, &c. It is a common practice, where red or black bricks are used, to stripe the building all over with one of these colours, a practice for which I can see no reason, and which is anything but pleasing in appearance. Let all our ornament as much as possible grow out of the construction. Thus, in a building of rubble or flint-work, bonding courses of freestone would be both necessary and appropriate. Coloured tiles, where used, should not, I think, be of very bright colours. There are some instances in the City which are quite alarming.

NEMO.

THE CHATEAU OF DRAVEIL, FRANCE.

In our number for October 2nd (p. 662), we gave some illustrations of the Château of Draveil, which is situated on the right bank of the Seine, about fifteen miles from Paris. It was originally built in the time of Louis XIII. with a mixture of brick and stone, in the style of the period. The entrance staircase, the two turrets, and the chapel, are modern additions, under the direction of M. Canissié. The turrets are used for the ventilation of the building, but serve also to recall, in idea, the campanile at the other extremity, and connect them with the chapel. The gallery, forming a covered way from the summer-room, I, to the chapel, has the double advantage of giving also on the first-floor a communication between the chapel and the principal apartments, and of tying together the two buildings in elevation. The following references will explain the plans:—

Ground-floor.	*First-floor.*
A. Orangery.	M. *Salon.*
B. Hot-house.	N. Vestibule.
C. Chapel.	O. Dining-room.
D. Bath.	O'. Small Dining-room.
E. E. Kitchen.	P. P'. Apartments of the Tutor.
F. Washhouse.	Q. School-room.
G. Cellar.	R. Children's Apartments.
H. Larder.	S. Spare Bed-room.
I. Summer-room.	T. T. Chambers of the Proprietors.
K. Wood-house.	
L. W. Closets and Ventilation-Tower.	

IRELAND.

New lines of railway are proposed from Londonderry to Letterkenny,—by Farland Point and Newtown Cunningham, a distance of about twenty-four miles; also a connecting line between Newry and Mullingar, on the Midland Great Western Railway, and thence to Galway, thereby ensuring by twenty-three miles the most expeditious route from Belfast to Galway. This latter will pass through the rich grazing counties of Meath and West-meath. We understand that since the successful commencement of "the Lever Packet route," the directors of the Midland Great Western Railway have resolved on constructing the branch line from their Dublin terminus, at the Broadstone, to the North Wall Quay, where goods and passengers arriving in the Irish metropolis, with America as their destination, can be instantly transmitted from ship to train, and thence reach Galway without change of conveyance.

A new iron bridge is to be constructed across the river Foyle at Derry.

Steps are being taken towards the erection of a new church at Rathgan, county Dublin, the present accommodation being found insufficient, and an architect has tendered his professional services gratuitously.

We hear that, in addition to the improvements in Dublin lately particularised in the *Builder*, it is intended, by the Board of Public Works, to remove the block of houses from Morgan-place (at the side of the Four Courts), to Church-street, including the extensive premises of the Angel Hotel, and to erect on the site thereof a new building as a Record-office, &c., in connection with the Four Courts.

Extensive works are to be done at the Church of Aughrim, county Galway, according to plans by the architect to Ecclesiastical Commissioners.

The Athenry and Tuam railway, sixteen miles in length, is to be constructed immediately, and tenders are sought for.

The Church of Ratheline, Lanesborough, county Langford, is to be rebuilt. Mr. Welland, architect. A portion of St. Patrick's Cathedral, Dublin, having recently exhibited an inclination to fall, immediate steps had to be adopted to take down some of the piers and reconstruct them, but all is now said to be satisfactorily completed. Other restorations are believed to be necessary.

The alterations and additions to Kilmainham gaol, Dublin, are progressing under the direction of Mr. John McCurdy, architect.

Improvements are being made at the Royal College of Surgeons, in Stephen's-green, Dublin, according to plans furnished by Mr. Darby, architect.

LECTURES AT THE ARCHITECTURAL MUSEUM,

SOUTH KENSINGTON MUSEUM.

Lectures have been arranged for and will be delivered in the Theatre on the following Wednesday evenings, December 8th, by Mr. Beresford Hope, M.P. on the Common Sense of Art. Dec. 22, by Mr. William Burges, on the Conventional Ornament of the Thirteenth Century. Jan. 19, in next year, by Mr. F. P. Cockerell, on the Painting of the Ancients. Feb. 2, by Mr. Crace, on the Application of Art in Manufactures. Feb. 16, by Mr. Octavius Hudson, on the System of applying Colour during the Thirteenth and Fourteenth Centuries. March 2, by Mr. Joseph Clarke, F.S.A., Hon. Sec., to the art-workmen, on the Application of Ornament. March 16, by the Rev. J. L. Petit, on Refinement in Architecture. March 30, by Mr. George Scharf, jun. F.S.A. on the Application of Colour to Form, and their distinctive Properties.

The prizes offered to art-workmen during the present year will be distributed on the last-mentioned evening.

Cards for the course of lectures will be presented to art-workmen, on their applying, on and after Thursday next, to the attendant in the Gallery of the Architectural Museum; by letter to the Honorary Secretary, Mr. Joseph Clarke; or at the Office of the *Builder*. The committee promise an early issue of cards to subscribers. The list ensures some most interesting evenings. We are glad to be able to add, and it will probably surprise many, that the number of annual subscribers to the museum has *considerably increased* during the present year.

RECENT BUILDING PATENTS.*

Improvements in the Preparation or Treatment of Carton Pierre, Papier Mache, and such like Plastic Substances, and in the Application of such Matters to Walls, Ceilings, and other internal Parts of Buildings, Ships, and other Structures. Dated Feb. 6, 1858.—*W. White and J. Parlby.*—This consists in producing direct from moulds forms of such materials in colours. For this purpose, having given the desired colours to the material to be employed, the patentees first place the portions of such colours in the desired parts of the mould, and, having pressed them therein, apply to them the general surface of that which is to constitute the general ground. The moulds are previously coated with a mixture of a greasy nature, to prevent the material adhering thereto. The improvements relate also to the treatment of such *carton pierre, papier mâché,* &c. to produce inlaying or imitation of inlays. For this purpose the moulds are formed to produce recesses in the surface of the material where the inlays are to be obtained, and into the recesses thus formed they introduce others of the material referred to, having the colour desired. In using plaster as a coating inconvenience is occasioned, from the long time required before it becomes sufficiently dry for painting. And the object of one part of these improvements is to substitute for such damp plaster dry blocks, or sheets of the composition referred to, strengthened with paper or other fibre, if desired; being previously moulded into the forms desired with the surface thereof decorated in relief.

Divers Anti-nitrous Cements, also applicable to rendering Damp Surfaces Impervious, and to Flagging and similar Purposes. Dated Feb. 6, 1858.—*L. E. Candelot.*—One of the compositions consists of a solution of boiled oil, colophany, turpentine, wax, stearine, liquid india-rubber, and a powder consisting of glass or silex, chalk, grey oxide of zinc, talc (or preferably sulphur), and lime. This composition may be modified, and several others are described.

A Composition for Uniting Wood and other Substances, Filling up Seams, and for use as a Waterproof Composition generally. Dated Feb. 1, 1858. (No. 186).—*W. J. Hay.*—This composition is to be run in and fill up the seams in wooden and other structures, also to be used as a glue to unite pieces of wood, as a waterproof composition for roofs, floors, iron ships, and other iron work, &c. The composition is formed of the following ingredients:—Asphalte or Trinidad pitch, vegetable tar, and oil naphtha, with or without the addition of caoutchouc. Or instead of naphtha the patentee uses rough creosote, spirit of turpentine, or any other spirit or essential oil, or he combines two or more of these ingredients, and mixes them with asphalte or Trinidad pitch and vegetable tar.

Improvements in Painting upon Glass, and in Protecting Paintings upon Glass. Dated Feb. 6, 1858.—*W. Potts.*—In producing some paintings upon glass the patentee first lays on a ground colour, and then removes the marginal colour from the outline of the design, by which means transparency of effect is produced. He paints some portion of the design on the face of the glass and other portions on the back. The patentee protects the painting by placing a sheet of glass upon the glass painted upon, and with a marginal line of varnished paper between the two plates. He then hermetically seals the edges. The back of the glass painted upon is covered by a sheet of gutta percha, and that is backed up by plaster of Paris, on which the glass carrying the design is securely embedded.

The Production of a new Paint Oil. Dated Feb. 4, 1858.—*W. Rhodes and H. Napier.*—This consists in mixing with rosin-oil two per cent. of soda ash, distilling and then mixing the product with half its weight of rosin.

Door and other Locks. Dated Feb. 23, 1858.—*G. F. White.*—This invention has for its object improvements in door and other locks. For these purposes each lock is constructed with two bolts, which are capable of being connected or geared together in such manner that when one is pressed back or unlocked the other is pressed out from the lock. Ordinarily only one bolt is used, and so long as such is the case the lock acts as an ordinary lock with one bolt, but when it is desired to prevent the lock from being opened by a correct key, or a pick-lock, introduced through the key-hole from the exterior, then the two bolts are connected or geared together, so that any action to unlock or move back one bolt will have the reverse effect on the second bolt, and cause it to be moved out of the lock as the ordinary bolt is moved into the lock, and the lock can only be unlocked by separating the two bolts. Locks thus constructed with two bolts may be arranged with wards or tumblers and other parts to increase the security thereof in like manner to other locks where only one bolt is used to each lock.

* Selected from the condensed lists in the *Mechanics' Magazine* and *Engineer*.

PROCEEDINGS UNDER METROPOLITAN BUILDING ACT.

COURT OF QUEEN'S BENCH.

The Queen (on the Prosecution of Labalmondier, Appellant) v. *Addison, Respondent.*—Mr. Quain, on the part of the respondent in this case, said he appeared under the following circumstances:—In 1856 a notice under the Building Act was served upon Mr. Addison, requiring him to take down or repair certain premises, which were alleged to be in a dangerous condition. In consequence of his neglecting to do so, and to attend to a summons issued by a police magistrate, the commissioners proceeded to repair the houses in question, and thereby expended the sum of 490*l.* 3*s.* which they then sought to recover under the process directed by the Act. Mr. Jardine, whose decision was now complained of, dismissed the case, upon the ground that the commissioners had neglected to enforce their claim within six months after the cause of complaint had arisen, inasmuch as the repairs had been completed in January, 1857, and the proceedings were not instituted until May, 1858. The question for the Court, therefore, was whether the cause of complaint had originated when the work was completed, or when the demand for payment was made. The learned counsel then proceeded to contend that the cause of complaint arose upon the completion of the work, and therefore the application was not made within the six months specified by the Act.

Mr. Hawkins having been heard on the other side,

Lord Campbell said that, no liability having been incurred by Mr. Addison before a demand for payment was made, the cause of complaint could not have originated until such demand had been made, and therefore the proceedings had been instituted within the time mentioned by the Act. The decision of the magistrate must therefore be reversed.

The judgment of the Court below was then reversed, and the case was remitted back to the magistrate with that intimation.

"THE BUILDER'S" LAW NOTES.

Rebuilding and Repairing.—A person in his will directed, amongst other things, that out of rents and profits, the mansion-house and all other buildings and messuages be kept in good repair, and that any farm buildings which might require it should be rebuilt. It was held that the direction to repair applied only to the mansion-house, but that the direction to rebuild, applied to the farm buildings and farm-houses. "Good repair," in the case of a barn was held to mean such repair as to make the barn properly useful to a tenant, although not ornamented, as perhaps an owner would have it. The Vice-Chancellor ordered that the surveyor should state the value of the timber required for repairs, and for rebuilding.—*Cook* v. *Cholmondeley.*

Master and Servant—Incapacity.—A person

who represents himself able to do certain work may be discharged before the end of the time agreed upon, if he be found incompetent, even though he thought himself competent, and therefore had not been guilty of a false pretence. Misconduct is a justification of discharge, and the court of Common Pleas has held that there is no material difference between a servant who *will not* and a servant who *cannot* perform the duty for which he was hired.—*Harmer* v. *Cornelius.*

Unlicensed Broker.—An unlicensed broker was employed to purchase scrip certificates of shares in a public company. He bought the shares, and paid the price to the seller. It has been held that he was only entitled to be paid the money he had advanced, and was not entitled to commission as a broker. Six judges, in a court of appeal, held this view, and one judge dissented.—*Lindo* v. *Smith.*

Builder's Contract.—Although it is usual to insert in builders' contracts a stipulation that, if there be any dispute, the admission or disallowance of claims is to be determined by the architect alone; yet if it be shown that any circumstances occurred calculated to bias his judgment, the contractors are not bound to submit in all things to his decision.—*Kemp* v. *Rose.*

Bankruptcy.—A tenant covenanted not to sell or carry off any hay or straw from the land, without bringing back a load of manure. He became bankrupt, and it was held that his assignees were bound by the same covenant.—*Re Collins.*

Auctioneer. — A person who calls himself an auctioneer, occupies an office, with his name and business on the door, and circulates cards to that effect, is a trader within the bankruptcy laws.—*Re Parkins.*

IN A RUIN.

I am sitting quite alone—
On a column'd moulded stone
For a cold impromptu throne—
Ruling kingdom of my own,
In the air.
The ivy-leaves are glinted
With the moon-beam, by the breeze,
And the haggard walls are tinted
By the shadows of the trees,
Gaunt and bare:
While the wanton gems of light
Dance about in wild delight,
Vis-à-vising with the zephyrs fresh and fair,
Here and there,
Playing soft Æolian ditties, tuned upon their golden hair.

The dead are round me lying,
And the wither'd leaves a-dying;
While the autumn wind is sighing
At the loneliness around;
And I cannot cease from feeling
That a something is revealing
Dread similitudes profound:—
How the heart of many a poet,
Though they leave us nought to show it,
Knew Apollo, and was crown'd.
Surely this is more than seeming—
Sure I am not only dreaming,
Or surmising?
For their skeletons, uprising,
Wake and sit upon the tombs!
And a lambent light is glowing,
Every look and action showing,
And the picture, in the moon-beam, most distinctly, lives and looms!

* * *

J. F. F.

BUILDING CONTRACT A DEMISE.

The Marquis Camden v. *Batterbury—Common Pleas.*—The Marquis Camden claimed to recover rent of some property at Camden-town, and the trial took place in Surrey, before Mr. Justice Willes, when the verdict was for the plaintiff for 241*l.* Mr. Bovill, Q.C. now moved to enter a verdict for the defendant, and stated the following circumstances:—On the 4th of February, 1853, the marquis granted a building contract, which included the property in question, to Mr. Elliott, who, on the 31st of January, 1854, assigned the contract to the defendant, and he, in his turn, assigned it to Mr. White on the 23rd of May, 1857. The rent now claimed had accrued due after the defendant had assigned it to White. The defendant's case was that the building contract amounted in law to a demise, and that he, having assigned it, was freed from liability. The marquis's case, however, was that the contract was not a demise, and that the defendant was liable as a tenant from year to year. Under these circumstances the principal question for the Court was whether the building contract amounted to a demise.—Rule granted.

A School of Art for Bridgwater. — At a public meeting held in Bridgwater, it has been unanimously resolved to establish a School of Art for that town, and a committee has been named to carry out the resolutions of the meeting.

Books Received.

The Local Government Act, 1858, *and the Acts incorporated therewith; together with the Public Health Act*, 1858. By Tom Taylor, Esq. Barrister-at-Law. London: Knight and Co. 90, Fleet-street. 1858.

This is a textual work, containing, not, like some previous works, merely an analysis or account of the new Act referred to in the title, but the Act itself, and all that it incorporates with it, in the form of Appendices, &c. The Act comes into force from the 1st of September, 1858, in districts already under the Public Health Act of 1848, and in other places at the expiration of two months from the date of its adoption. By the adoption of this Act, boroughs, towns, and places possessing known and defined boundaries, may obtain powers for their own government and improvement without recourse to the central executive or to Parliament. Its provisions do not extend either to Scotland or to Ireland; nor do they apply to or affect any place within the metropolitan limits. This edition of the new Act is accompanied by a useful running commentary and a full index, as well as forms of schedules and other appendices. Mr. Tom Taylor's name gives assurance of correctness.

VARIORUM.

Under the title of "Marine Sanatoria: their Objects and Requirements, with especial Reference to the Northern Sea-bathing Infirmary at Scarborough," Dr. T. Morley Rooke argues strongly against the intention of the committee to plant the new building in a confined and low neighbourhood. "On a small flat," he says, "scarcely above the level of high-water mark, and immediately at the foot of an almost perpendicular declivity, the surface drainage of which must necessarily gravitate to the lowest level; flanked on either hand by large buildings, at not more than a few feet distance, if not absolutely adjoining; having, it is true, the sea and intervening sand in front, but on the same level with, and removed by but a few roods from, the harbour and that part of the shore where, in hot weather at low tide, more senses than one are often so painfully affected that a feeling of absolute nausea is the result;—in such an ill-chosen spot, I repeat, has it been determined to erect the new Sea-bathing Infirmary of Scarborough." It is to be hoped that the governors, who are widely scattered, will give consideration to Dr. Rooke's pamphlet, and interfere to prevent what, if the statement be correct, would prove to be a most cruel and expensive mistake.——Dr. M'Cormac, in a Letter on "The Theory of Consumption," addressed to the Imperial Academy of Medicine at Paris (Longmans), reurges his very able and convincing arguments in favour of the idea, which he claims to have discovered, that want of pure air, especially in bed-rooms and by night, is an invariable adjunct in the development of consumption, whether in the form of tubercular waste unconsumed in the lungs by the scavenging action of pure air, or in scrofulous outbreaks of the same unconsumed waste in other parts of the body, acquiring different names, as if different diseases, according to the place where it happens to break forth, as at the knee in white swelling, in the glands of the neck as king's evil, or "the evil," &c. In some comments on the mortality among the Guards, Dr. M'Cormac rightly characterizes the late disclosures as equivalent to the result of a grand experiment on the power of foul air, to kill the very *élite* of the soldiery, who are the picked men of the three kingdoms. The author strongly insists on the necessity of a never-ceasing renewal of fresh air to health, and especially in bed-rooms, and most especially of all by night, when doors and windows are far more usually and continuously closed than through the day. The very law of the very breath of life in man's nostrils is, that air shall only once be breathed, till its vital power be renewed by nature's processes, otherwise the seeds of disease are being laid in the system. Where these seeds assume the fell shape of tubercle in the lungs the very fountain of life and health begins to be choked as well as polluted. The access of tubercle disables the lungs from taking sufficient advantage of the scavenging power of the oxygen of the air, whether it be pure or impure. The evil thus accumulates in a rapidly accelerating ratio, and but too often not only a deadly consumption, but a galloping one, is the result. If, while tubercle is accumulating, the air which still continues to be habitually breathed be foul air or air already breathed and rebreathed ere it has had time and opportunity for the renewal of its vital oxygen, the consumption cannot but be rapid; and, on the contrary, Dr. M'Cormac has uniformly found that a recurrence to pure air as the habitual pabulum of life will not only arrest the accumulation of the carbonaceous refuse called tubercle, but open a way for the removal of what has already been deposited, and so cure that heretofore "incurable" opprobrium of the medical faculty, tubercular consumption.——The first edition of "The New Zealand Handbook, or Emigrant's Bradshaw," was exhausted, it appears, by the sale of its 5,000 copies in a few weeks; and now a second and improved edition of this interesting account of the "Britain of the South" has been issued by Stanford, of Charing-cross.

Miscellanea.

Warminster Athenæum. — This building, erected under the direction of Mr. W. J. Stent, has been completed and opened. The elevation is a considerable improvement on that which was first proposed. On the ground floor are two useful offices, 18 feet by 18 feet; a lecture-hall, 56 feet by 26 feet; and a class-room; while above is a good reading-room, 30 feet by 18 feet, with two class-rooms. It promises to be a very useful institution. Praise has been given to Mr. Stent for his share in founding it.

The Leeds Crimean Monument.—A renewed effort to increase the fund (100*l.*) already subscribed for this monument, it appears, has been commenced. It is proposed to erect a much more elaborate and costly one (in the parish church), than was at first contemplated, and hence the necessity for a larger sum being subscribed than that which is already in hand. The monument will be of white marble and Caen stone, with one or more full-length figures, the whole being 12 feet high, and the names of all the natives of Leeds and the neighbourhood who fell in the Crimea will be engraved on it. The cost will be about 250*l.* The design is by Messrs. Lee and Welsh, of Leeds.

Inauguration of the South Staffordshire Waterworks.—The works at Walsall and Lichfield have been inaugurated by Lord Ward. At the Pleck, reached from the Walsall station, an extensive open reservoir, covering six acres of land, 21 feet deep, and calculated to hold thirty millions of gallons of water, has been constructed. The reservoir, which is situated on the top of the Moat Hill, is almost circular in form, and is surrounded by a wide footpath; it has occupied about two years in formation, and its cost is about 8,000*l.* At Sandyfield, on the way to Lichfield, the pumping engines are erected. They are placed in a building erected by Messrs. Branson and Gwyther, of Birmingham, and are two in number, of 150-horse power each, manufactured by Messrs. James Watt and Co. of Birmingham, at a cost of 20,000*l.* The engines were started by Lord Ward. The reservoir at Lichfield is of enormous extent, occupying fifteen acres, and being capable of storing fifty millions of gallons of water, at a cost of 15,000*l.* in construction. The districts to be supplied are those of Walsall, Wednesbury, West Bromwich, and Dudley. The length of the cast-iron main between the engines at Lichfield and the town of Wednesbury is about 12½ miles. The branch of the Walsall reservoir is about half a mile, and to Wednesbury reservoir about the same, making a total length of 13½ miles. This has been laid by Messrs. Cochrane, of Woodside Ironworks, Dudley. The first five miles of pipes are 2 feet diameter, eight miles are 22 inches, and half a mile is 18 inches in diameter. About 7,000 of these pipes have already been pumped through, and only two defective ones had to be replaced. The weight of main laid is upwards of 7,000 tons, and when the branch mains to West Bromwich and Dudley are completed, the total length of main will be about twenty-five miles; through the whole of which the engines at Lichfield will pump the water, which is mainly derived from a tunnel of more than a mile in length, driven through sand-stone rock teeming with water, and from shafts and borings sunk in the tunnel, as well as from surface drainage of soft water. The reservoirs in all hold about 90,000,000 gallons. The present works are capable of distributing 2,400,000 gallons daily, and double that supply can be had if required. At the lowest rates known, the revenue from the present plant, if all the water is sold, will realise 20,000*l.* per annum; and at that rate the cost to the humblest cottage will only be one farthing for a barrel of water containing thirty-six gallons. Mr. R. McClean is the engineer.

ST. PAUL'S, BERMONDSEY.—The new school-room in this parish has been opened. The building has been erected at a cost of 600*l.* and is capable of accommodating 200 boys. The site, which had been intended for a new parsonage, was given up, on account of the more urgent demand for a school, by the Rev. W. D. Long, incumbent of the parish.

THE DRAINAGE OF STROUD.—At a recent meeting of the Stroud Board of Health the surveyor laid his plans before the Board, and the total estimated cost of the works was about 9,000*l.* A committee was then appointed to inspect the plans in detail, and to report to the Board thereon. Their report recommended the carrying out of the surveyor's plans, except that a reduction in the size of the tanks at the outfall was recommended, by which a saving of about 1,000*l.* would be effected. This report was unanimously adopted, and instructions were given to apply to Government for powers to borrow money to carry out the works. It is intended to construct the outfall and one of the main sewers, borrowing sufficient capital for that purpose, and leaving the rest till another time.

A THEATRICAL MOVEMENT IN A CATHEDRAL CITY.—A theatre is now building in the city of Gloucester. About a year ago a gentleman named Blinkhorn, a railway contractor, purchased the old theatre, a miserable barn, and ever since workmen have been employed in converting the shell into what the owner is determined shall be a first-rate establishment. The edifice has been rebuilt from the ground more than once, and the interior altered again and again, in order that the theatre may be rendered comfortable in the highest possible degree as regards seeing, ventilation, and every other respect. In this the proprietor, it is said, has succeeded. The house is described as having a capacious stage, two tiers of boxes, the seats of which will be cushioned, and a large gallery and pit, the seats in the latter having backs, and every seat in the house commands the stage. The house is so far advanced towards completion that it is about to be painted; and Mr. Beverley, the scene-painter, is likely to undertake its decoration, for which he will receive from 300*l.* to 500*l.*

THE LONDON TAVERN, BISHOPSGATE.—The great room and other parts of these well-known premises have been decorated at some cost, but not quite so effectively, it seems to us, as might be desired. We speak more particularly of the large room, where surely artistic direction has been wanting. Its inharmonious effect struck more than one of those who were gathered in it on the occasion of the Builders' dinner. A sickly pink, white, and green, are the predominant colours; and the effect, especially at the end above the chairman's seat, is at night very much that of coloured sugar-work on a twelfth-cake. The lighting, comprising a sun-burner in the centre, is very good.

ACCIDENTS TO PROPERTY AND PERSON.—At Falmouth, through the incautious removal of a prop some time since, which was not replaced, one of the floors in the upper story of the bonded warehouse, which was heavily laden with wheat, fell to the next floor, and broke through that into the lower one. The second floor was filled with Indian corn, and it all went into the lower one, which was stored with wine and spirits. Fortunately the accident occurred when the men who had been landing the Indian corn were at dinner, and no lives were lost.——At Bath, a house floor lately fell at the Wells-road, suddenly, and without any indications that such a catastrophe was imminent: the joists gave way, and precipitated a woman into a cellar below. The floor seems to have been of stone. When extricated, the skull of the poor woman was found to be seriously hurt, and her person otherwise much contused.——A serious accident has occurred at the theatre erecting in West Blackhall-street, Glasgow, by which several persons have been dangerously, if not fatally, injured, and others have escaped in a miraculous manner. It appears that a number of labourers were at work on a scaffolding erected in the inside of the building, along the upper tier of the front wall, over a portion of the house intended for a music-hall. Suddenly the erection gave way, and the unfortunate men were hurled to the bottom of the building—a distance of about 70 feet. Several sustained injuries of a very serious character: some had their arms and legs broken, and others their ribs fractured, besides other injuries. Five or six were conveyed to the infirmary. One man, finding the scaffold moving from under him, sprang to the top of the wall, and escaped. The descent to the bottom was through a layer of joists intended for the floor of the hall. One man got on a joist and escaped unhurt.

THE OPEN SPACE, CHEAPSIDE.—Sir: Notices of widening streets, throwing open vacant spaces, &c., are eagerly welcomed by all friends of social progress: how great then is the disappointment when we find that what we had flattered ourselves was a public gain turns out the reverse! I, with dozens of friends, and I venture to assert the public generally, expected the boarded-in space at the west end of Cheapside was ultimately to be thrown into the thoroughfare from St. Martin's-le-Grand to St. Paul's. It has been repeatedly stated in the papers, that when the lease of the toy-shop at the corner of Paternoster-row was out the improvement would be effected. Have we been labouring under a delusion? Can any of your readers let us know the true state of the case?

VIGILANS.

EPWORTH MEMORIAL CHAPEL COMPETITION.—The committee appointed for the erection of a chapel to the memory of the Rev. Alexander Kilham, founder of the Methodist New Connection, received several designs in competition, and have selected the plan submitted jointly by Mr. H. J. Paull, of Cardiff, and Mr. R. C. Sutton, of Nottingham. The building is to be erected at Epworth, in Lincolnshire (Kilham's birth-place), and will be commenced forthwith, and carried out under the superintendence of the architects. Epworth was the native place also of John Wesley, the founder of the sect which takes his name.

DESECRATION OF THE DEAD IN ST. PANCRAS.—The inhabitants of the district about St. Martin's Cemetery, Camden-town, have been aroused into a state of great excitement, leading to breaches of the peace, by alleged doings in that burial-ground, where, it has been said, dead bodies have been chopped to pieces and flung pell-mell into large holes, and the putrifying remains, in a fluid state, thrown over the wooden hoarding which encloses the ground, for the purpose of defiling the hands of those looking on. Proceedings have been taken for the prevention of such proceedings and the punishment of those concerned, and it is alleged that a faculty was obtained, by fraud or misrepresentation, to enable the authorities to profit by the removal of bodies deposited within the last five if not three years, in the conversion of the ground for building purposes, as a substitute for burial fees formerly reaped by the vestry. A public meeting has been held on the subject, and great indignation expressed. An account of previous proceedings in the matter will be found at p. 604, *ante*.

JULLIEN'S CONCERTS.—Cheap concerts are amongst our educational levers, and those of M. Jullien in particular. Confined to a small theatre on the present occasion (the Lyceum), he has brought together the best of his band, and, with Miss Vinning as solo singer, and a violin-player of extraordinary excellence, M. Wieniawski, is pursuing a flourishing course. The promenade on the stage is pleasingly decorated, and from the ceiling are suspended a number of chandeliers, including a large one over the orchestra, executed by Messrs. Defries, who appear just now to reign supreme in this sort of work.

SLAUGHTER-HOUSES, CAMBERWELL.—SIR,—You will greatly oblige an old inhabitant of Camberwell by inserting the following most inconsistent proceedings of the Camberwell vestry in the matter of granting a slaughter-house license to an inhabitant of the High-street. The premises consist of a small and confined yard, for the joint use of two houses, 4 feet below the level of the road: the dimensions are only 8 feet by 16 feet, with no other entrance for the animals than through the house. The yard is surrounded on all sides by high walls. The stench in hot weather from the blood and offal is insupportable. It was condemned by a former board of health. Last year a license was refused; but this year, to my great astonishment, the vestry have granted a license, to the great danger of the public health.

A. S.

DONORS TO BUILDERS' BENEVOLENT INSTITUTION.—SIR,—In your notice of the meeting held at the London Tavern, in aid of the funds of the Builders' Benevolent Institution, you append a foot-note, which gives a list of the principal subscribers; but you omit a name almost as familiar as a household word. Mr. George Jennings has for several years given us ten guineas per annum, and, in other respects, tried to promote the interests of this institution. This is noteworthy, if only as an example to others. By rectifying this in your next number, you will oblige friends of the Institution, and— J. B.

Hammersmith.

*** The list came to us officially. The omission was, doubtless, accidental.

STRIKE FOR BEER.—Four hundred shipwrights on the Wear are on strike, the question in dispute being a daily allowance of a pint of beer to the men, which the masters have discontinued. The masters may think that the men are better without the beer, but it is shabby in them to pocket the proceeds, which, in fact, are part and portion of the men's wages: they ought to pay the twopences, and erect drinking-fountains for the men.

ELEPHANTS EMPLOYED IN BRICKMAKING.—The *Ceylon Observer* contains an account of some brickmaking works recently visited by Sir Henry Ward. The works, which turn out about 20,000 bricks a day, are only six miles from Colombo. The clay for brickmaking is prepared by elephants. The wild and tame work together, and both attempt to shirk their work by endeavouring to put their feet in old footprints, instead of in the soft, tenacious, untrodden mud. This is rather odd too, for elephants are very fond of wallowing in mud; but that is play, not work, and this no doubt the sagacious elephant very well knows.

TENDERS.

For sewers, &c. at Cardiff:—

Webb and Sons	£11,675	0	0
D. Jones	10,765	2	0
Moore and Griffiths	10,055	0	0
Gibbs	10,739	0	0
Chambers and Thomas	9,989	10	0

For the works of the Cardiff Cemetery, including chapels and vestries, boundary walls and fences, lodge and waiting-room, roads, paths, and drains; laying out and planting. Mr. R. G. Thomas, architect; Mr. Thomas Waring, C.E.:—

Laurence B. Moore, Newport	£6,507	7	0
John Webb, Cardiff	6,030	0	0
John and Thos. Thomas, Cardiff	5,993	0	0
Alfred Chambers, Newport	5,898	18	0
Benjamin Farmer, Bristol	5,200	0	0

For the restoration of Bletsoe Church, near Bedford. Mr. Edward Browning, architect, Stamford:—

Bryant and Barker, Bedford	£2,669	13	9
Webster, Wyberton	2,017	0	0
Lawson and Joy, Bedford	1,978	0	0
Freshwater, Bedford	1,725	0	0
Reynolds, Bedford	1,679	0	0
Bradshaw, Stamford	1,714	0	0
Wilson, Grantham	1,580	0	0

For a house to be built at Forest-hill, for Mr. G. J. Cockerell. Mr. Henry Jarvis, architect:—

Coleman	£1,856	0	0
King, Burton, and Hipperall	1,840	0	0
Rider	1,798	0	0
Brown, Robinson, and Co.	1,690	0	0
Carter	1,644	0	0
Lucas, Brothers	1,620	0	0
Crawley	1,620	0	0
Downs	1,593	0	0
Willson	1,579	0	0
Thompson	1,442	0	0

For the erection of Bedfont Lodge, Isleworth, for Mr. W. Carter. Mr. William Roe, architect:—

C. H. Davis, Deptford	£1,075	0	0
G. Burchett, Isleworth	1,043	0	0
T. Chamberlen, Hammersmith (accepted)	999	0	0

For second portion of works at No. 18, London-wall. Mr. Charles Laws, architect:—

Piper and Son	£850	0	0
Browne and Robinson	776	0	0
Glenn	620	0	0
West (accepted)	530	0	0

For new shop-fronts, &c. to No. 24, Cornhill and Change-alley, for Mr. Daniel Grant. Mr. Wm. Lee, architect:—

Wills	£450	0	0
Felgate	446	0	0
Maeers	443	0	0
Lemon	414	0	0
Newman and Mann	398	0	0

TO CORRESPONDENTS.

Preventable Disease.—We have received from Dr. Greenhow a reply to the observations in our last, but must postpone the consideration of it, with some other communications on the same subject, for a week.

Price Books (the prices given cannot be for the same work: in the one case they include sawing and setting to beds and joints; in the other not. Even then the lowest are erroneous).—Epsilon.—J. D.—W. R.—R. G. T.—J. L.—Dr. G.—C. R.—R. G. (Institution of Civil Engineers is in Great George-street, Westminster).—F. J.—D. M. H. (Sandhurst).—R. M. (water under pressure may be heated sufficiently to lead to conflagration. Fires from that cause have occurred).—S. W.—H. P. H.—F. Y.—W. H. S.—J. H. (the question is not clear).—C. K.—C. R.—R. W. (we cannot re-state heights of buildings already given more than once in our pages).—C. T.—T. W. (a cement for aquariums will be found in a previous volume).—V. W.—A Subscriber (next week).—N. W.—R. S.—W. R.—J. W. P.—C. H.—L. W. C.

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